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Southern Medical Association, Thirty-Fifth Annual Meeting, St. Louis, Missouri, November 11-14

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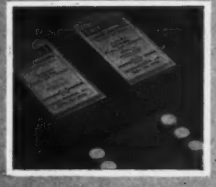

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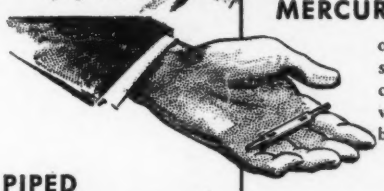

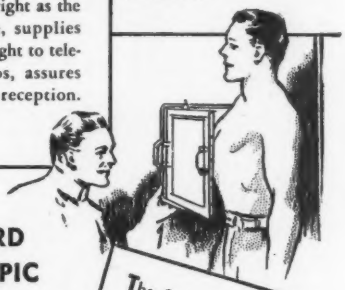

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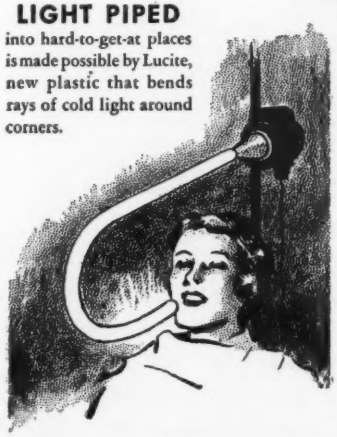

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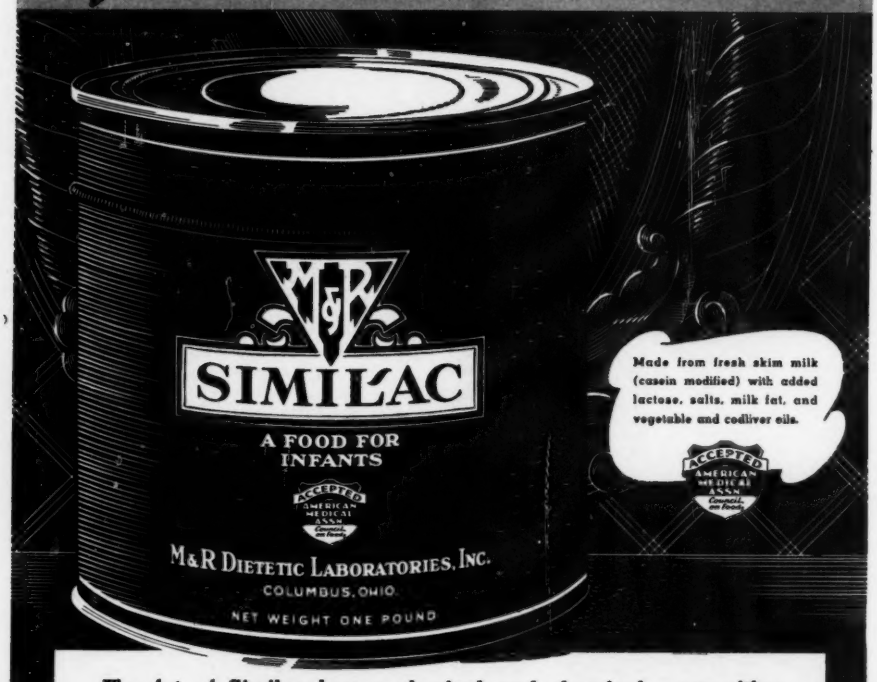
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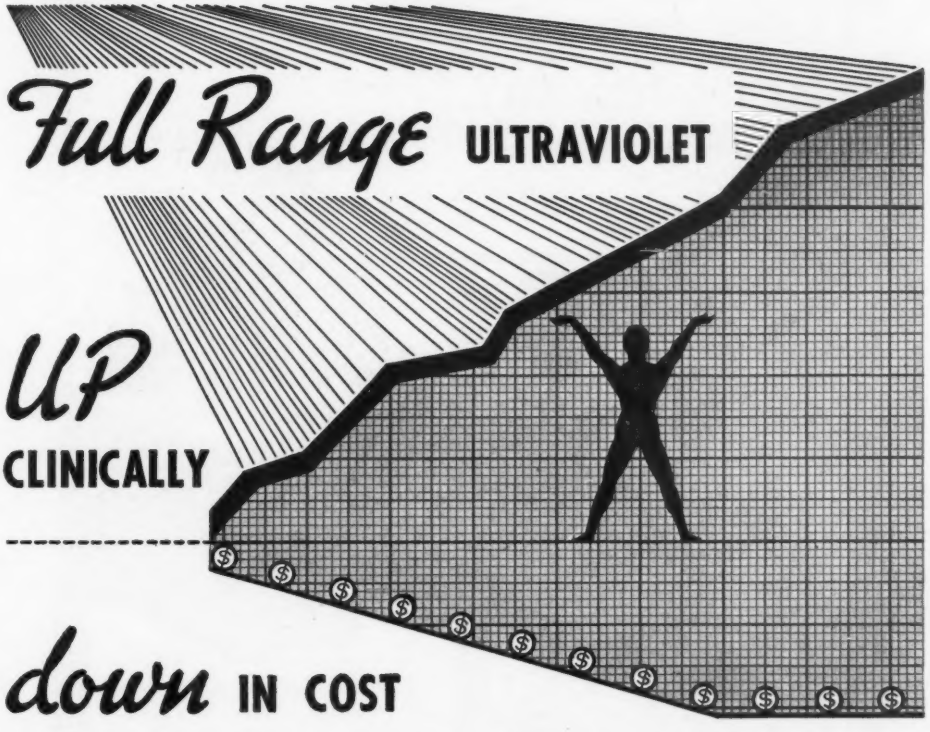

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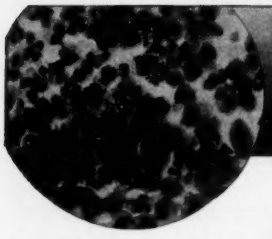

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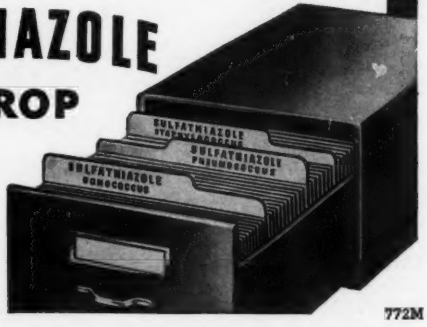

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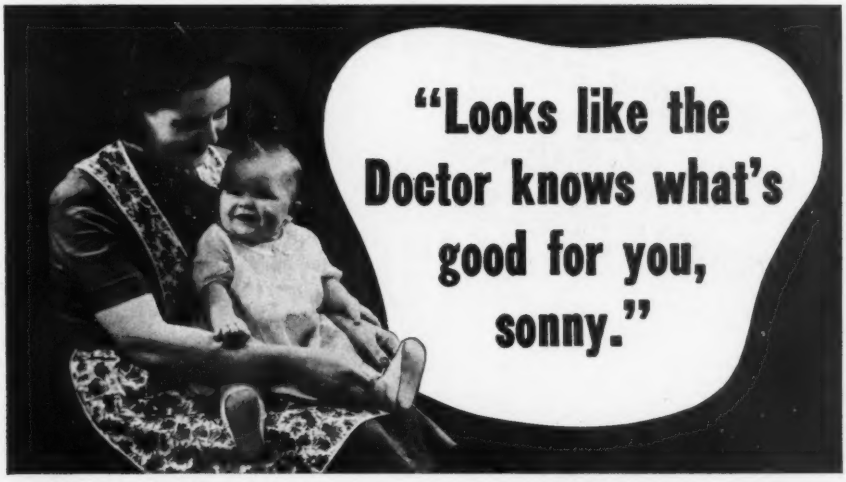

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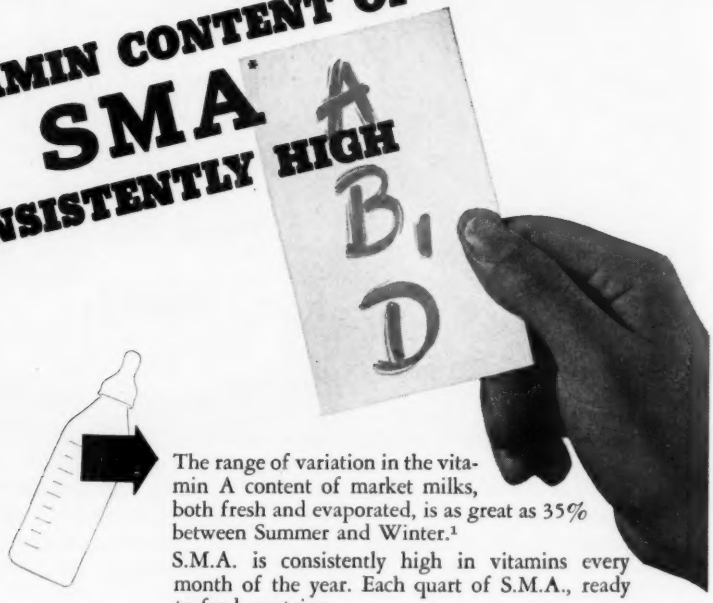

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1. Dornbush, A. C., Peterson, W. H., and Olson, F. R.: "The Carotene and Vitamin A Content of Market Milks." J.A.M.A., May 4, 1940, pp. 1748-1751.
" " "

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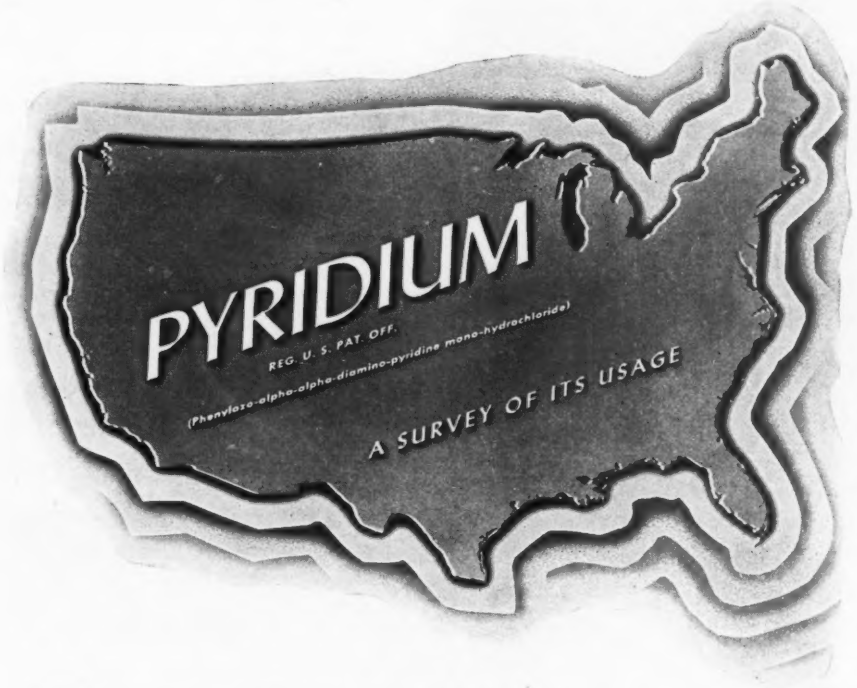

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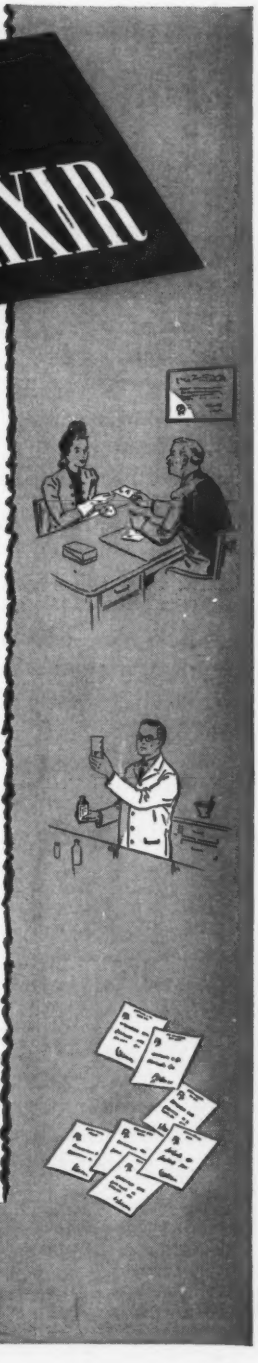

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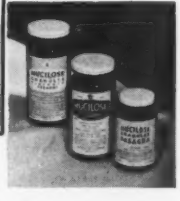

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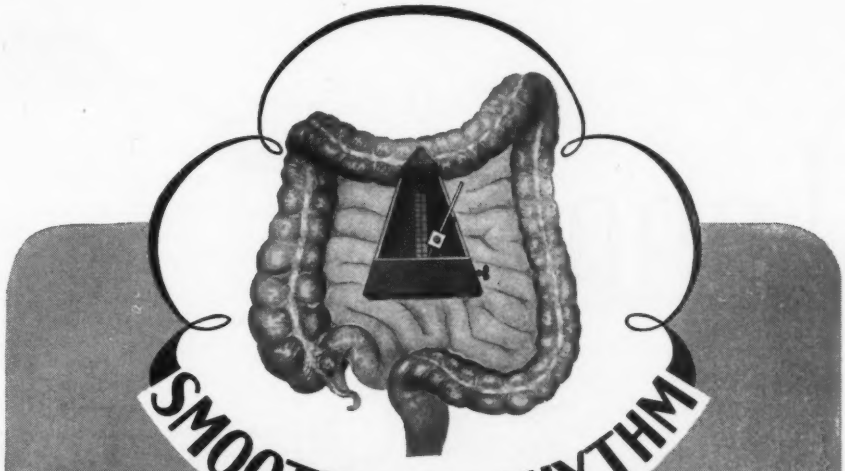

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BIBLIOGRAPHY:

[1] FINLAND, M., LOWELL, F. C., and SPRING, W. C., JR., New England J. Med., 222:739-747., May 2, 1940.

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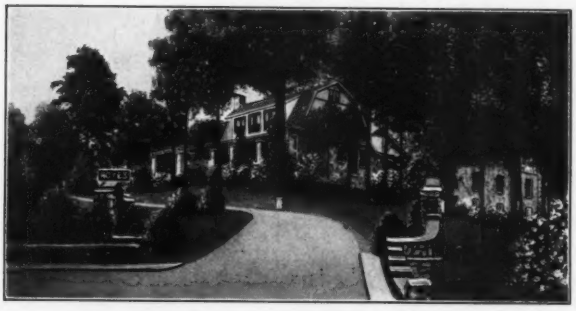

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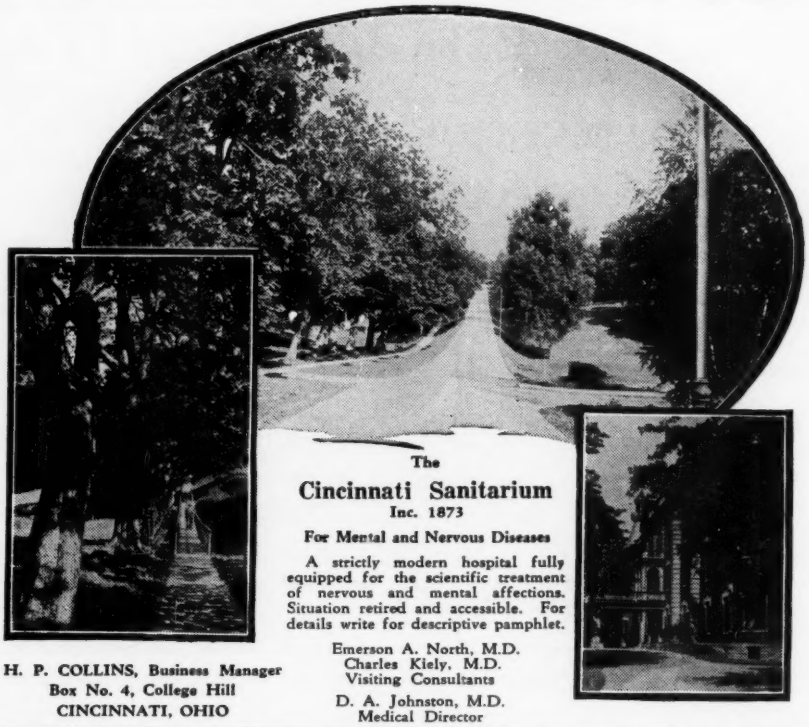

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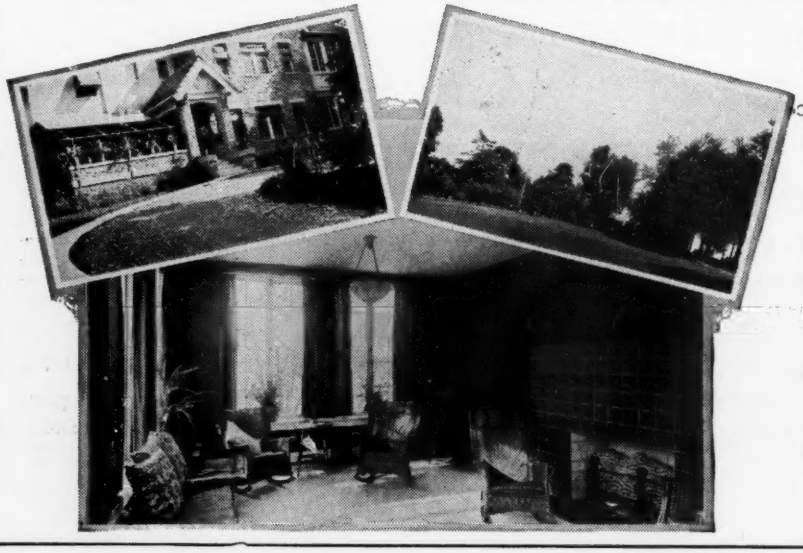

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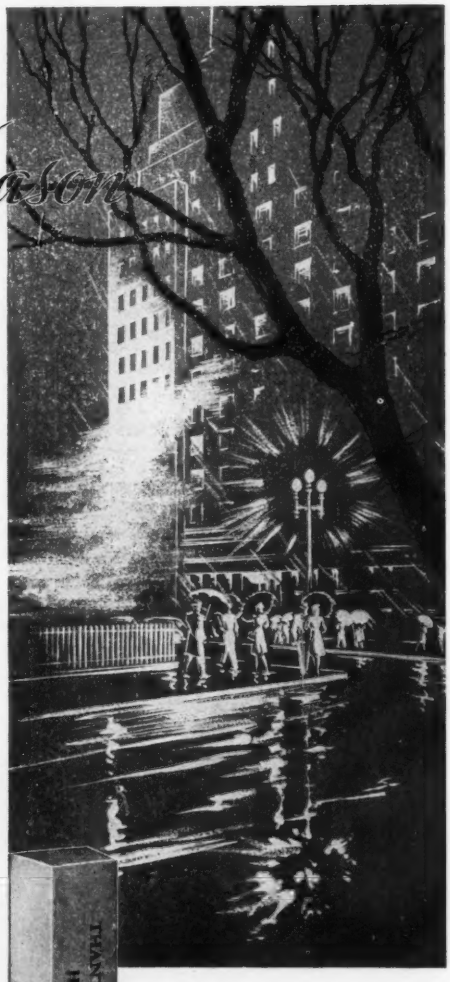

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EXTENSIVE FRONTAL INJURIES*

By EDGAR F. FINCHER, M.D.
Atlanta, Georgia

These head injuries have presented such radiologic and pathologic simularities as to suggest classifying them separately from the more common types of fractures of the skull. The neurologic damages as well as the physical appearances of these patients have shown a striking resemblance to each other. The surgical technical problems have been fundamentally identical in every case that has been operated upon. These surgical procedures could be classed only as craniotomies as compared to the usual debridement and plastic repair of the more commonly surgically treated head injuries. Eleven cases[1] of these extensive frontal injuries were reported before the Cushing Society in 1937. There have been ten additional cases since this first report. Nineteen of these cases have been operated upon, eighteen of them within two to sixteen hours after their accidents, and one four months after the date of her injury. This last case, like the two patients not operated upon, illustrates the serious immediate and latent complications that may occur in these extensive frontal injuries. There have been three fatalities in the eighteen cases, where emergency craniotomies were carried out. Two of these deaths were due to direct complications of the head injury and one from a chest injury complication. There have been no deaths from the frontal injuries *per se*. This was an additional influencing factor in the grouping of these skull traumas apart from other types of head injuries. It is felt that the presentation of the experiences gained from a study of these twenty-one cases may be helpful in recognizing this particular type of head injury and, further, that the results obtained attest the value of the radical treatment advocated.

The literature referable to this specific type of head injury is rather sparse and allied contributions on this subject are concealed in publications dealing with the surgical treatment of cerebrospinal rhinorrhea. Cairns,[2] in 1937, published a series of case reports on nasal spinal drainages resulting from injuries to the frontal sinuses and cribriform plate. He felt that the "indications for urgent surgical intervention are clear in cases of injury to the dura during intranasal operations," but that "in the acute stage of frontal injuries the case for immediate operation has not yet been clearly established." Several of Cairns' case reports might well be grouped as "extensive frontal injuries," for the clinical pictures, the radiologic findings, and operative treatment from his descriptions might easily be substituted for any one of the eighteen cases in this report. Cairns' study dealt essentially with the seriousness of traumatic rhinorrhea and he concluded that there was "more need for precise and statistical knowledge of the ultimate fate of patients treated for these injuries." It appears from a review of some of Cairns' cases, as well as those of Teachnor[3] and others who have written on the surgical treatment of spinal fluid drainage from the nares, that in a certain per cent of the eighteen cases here reported not only have immediate dangerous complications been forestalled, but later serious surgical problems may have been prevented. As advocated by Dowman, aside from didactic usefulness the only value attributable to a head injury classification was that

> "It permitted earlier instigation of proper treatment that had been proven by past experiences to have been the most effective."

This advice has been followed and the similarities of these twenty-one cases are presented in the hope that the results have justified grouping them under a separate classification.

A familiarization with the anatomy of the

*Chairman's Address, Section on Railway Surgery, Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, Kentucky, November 12-15, 1940.

*From the Department of Surgery, Emory University School of Medicine.

frontal bone and its adjacent bony structures of the skull serves only to impress one with the magnitude of this group of fractures of the skull (*Fig. 1*). The facial bones and paranasal sinuses more commonly bear the brunt of the radiating lines of force as they emanate from the traumatic site of the more resistant frontal bone. The soft tissue structures of uppermost portions of the face are always involved, either from direct contusion or laceration, or secondarily from hemorrhagic or cerebrospinal fluid disseminations. The anatomical contents of the anterior cranial fossa are always damaged, either in the nature of meningeal tears, torn meningeal and cerebral blood vessels or cortical lacerations. Those engaged in neurologic surgery carry out osteoplastic flaps at any indicated area of the skull. Shying away from the accessory nasal sinuses, the floors of the anterior and middle cranial fossae are traversed. In the apprehensive enthusiasm of the anticipated "tumor goal" little thought is centered on the structures that lie beneath these bony floors. This is not true in operating upon these para-frontal fractures, for most commonly the bony anatomy has been so distorted that orientation is difficult, and only after the operation has been completed does the extensiveness of the bone damage become fully apparent. Anatomically one may begin with the surgical preparation of a contused or lacerated scalp. Working over a protruded ecchymotic edematous orbit, the properly planned scalp incision is made through hemorrhagically dissected tissues. The fracture to the frontal plate may be extensive enough where only a removal of the comminuted bone fragments is sufficient to expose the anterior cranial fossa. Advantage may be taken of a linear fracture to effect an osteoplastic flap. Extradural bleeding from meningeal vessels or from the blood vessels of a completely unroofed orbital fossa is to be visualized once the cranial cavity is entered. Troublesome collections of bloody cerebrospinal fluid continue to annoy the surgical progress. Shales of bone from the posterior sinus walls are to be found extradurally and continuing inward they may be embedded in the frontal lobe. Unless the frontal plate fracture has been frankly depressed or indriven, the bony fragments encountered in the anterior fossa have been those of small shales from the orbital roof or the walls of the frontal or deeper sinuses. These fragments have been found in every possible place and position during the operations. A large plaque of the posterior table of the frontal bone has been found driven beneath a partially remaining orbital roof. It has been quite common to find numerous tiny slivers of bone in the macerated hemorrhagic brain. A recognizable knob of a frontal sinus in one instance was found deep in the inferior substance of the frontal lobe. An identified, superior half of the cristi galli was picked from out of the retro-orbital fat in one case and in another a very thin free fragment of bone, about one centimeter in diameter, was found wedged in a linear fracture separating the cristi galli from the cribriform plate. In still another case a small scale of bone from the orbital plate had penetrated the outer edge of an optic nerve. Dural tears, rents and even bulk destruction of this membrane may de-

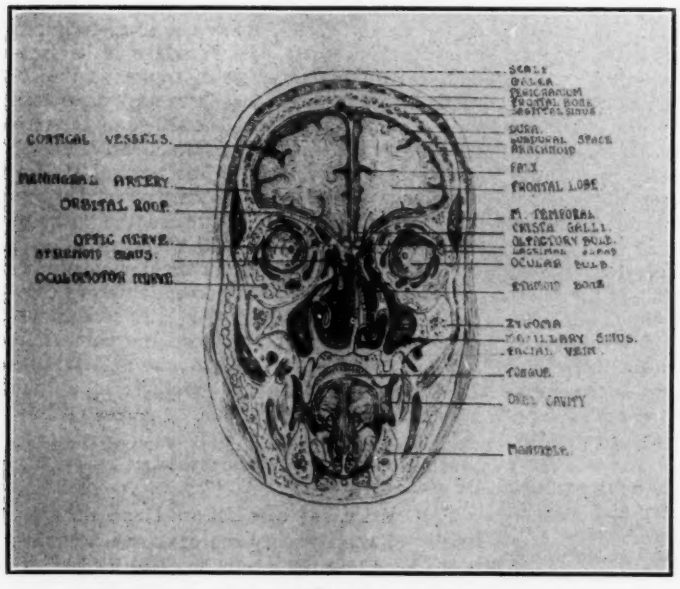

Fig. 1
Frontal section of the head through the orbits, illustrating the structures more commonly damaged in the extensive frontal injuries.

mand surgical care before the damaged brain and cerebral vessels are exposed. Subdural clots and bleeding from torn dural sinuses or their venous cortical connections many times command attention before a satisfactory review of the brain damage can be made. The amount of subdural bleeding has been in direct proportion to the extensiveness of the brain damage. The brisk subdural arterial bleeding has been from the trunk or the branches of the anterior cerebral artery. In one case a torn ophthalmic artery was the contributor. These arterial structures have been more commonly penetrated by bony fragments rather than torn by the actual cerebral contusion at the time of the accident. The venous bleeding, in addition to the actually severed pial vessels, has been from the torn cortical veins that empty into the longitudinal sinuses. A tear in the tip of the cavernous sinus was identified in one exposure of the anterior fossa.

The actual amount of cerebral tissue destruction has been the most variable pathologic finding. In one of the cases the clinical and neurologic picture was not indicative of any grave amount of brain destruction. Yet, on exposure and removal of the hemorrhagic macerated tissue the sylvian vessels were the first normal cerebral structures encountered. In two other cases almost the entire floor of the frontal fossae was visualized after the traumatized cerebrum had been aspirated away. In both of these cases the anterior rim of the sphenoid wing was the posterior limit of the "dead space." In the greater number of cases the brain damage has been minimal and in one or two the dural repair has been possible simply by extradural retraction of the frontal lobe. A dural opening into the ventricles has not occurred in any of the eighteen surgical cases. A damage to the olfactory nerve has been seen in twelve of the cases, but in only two cases has an optic nerve been exposed at the time of operation. These are a few of the anatomical-pathologic considerations that have presented themselves in these extensive frontal fractures. It has been the ramifications of these fractures and associated meningeal tears that have opened the pathways for the serious complications and it has been the anatomical recognition of this fact that has governed the surgical repair of the damages in order that these complications may be prevented.

The etiologic causative agents in this group of cases have been of interest. They have been of two types, either force of great mass and moderate velocity or small objects and of great velocity. The fractures have resulted from the direct impact and have not been of the *contra coup* type of skull injury. The most common history of the accident has been that of a fall from a height. Coming down in a dive, attempts have been made to break the fall with the outstretched arms. As a result, a fracture of one or more bones in the upper extremity has been the most frequent associated injury. The only other associated injury in the twenty-one cases was a crushing damage to the chest. In five cases the frontal injury resulted from force of small mass and of great velocity. One such instance was from an iron paper weight hurled at close range. A second was a criminal assault with an iron bar. The third one of these cases was in a patient who drove his automobile into the rear of a lumber truck and encountered a protruding timber as it came through the windshield of his car. An uncoiling steel spring cable accounted for a fourth patient's extensive damage. In the fifth case, seen four months after the accident, the injury to the frontal bone was received in an automobile accident. As the patient was thrown forward her head encountered the posterior rim of the automobile hood as it was jammed into the cabin of her car. Although automobile accidents were the second most common to falling injuries in the twenty-one cases, only one victim was thrown clear of the inside of the automobile. It appears in every instance that the injuries have occurred as the result of the direct violence and that this force has spent its energy locally. The explanation of the extensive bony damages in these frontal injuries has been attributed to the construction of the supraciliary ridges. These ridges having a poor degree of elasticity are very refractive to forceful damage, and as such, the transmissions of the lines of force have been to the frontal plate proper and the floor of the anterior fossa, whose bony constructions are of lesser refractivity. These radiating lines of fracturing have just as commonly extended into the squamous portion and the sphenoid wing of the temporal bones. This bony absorption of the force has suggested an explanation for the fatalities as being the result of the complications and not from the cerebral damage.

The clinical pictures in all of these extensive frontal injuries have been strikingly duplicated. Scalp lacerations have not occurred in all cases. Abrasions and contusions have been as common as open scalp wounds. In two cases the scalp damage was only a first degree friction abrasion. All of these patients have had edematous, ec-

chymotic eyelids. More often the greater ecchymosis and swelling has been on the side of the frontal damage. Edema of the conjunctivae or of both globes has been as common as the swelling of the eyelids. Where there has been a definite exophthalmos, ocular paralyses have also been present, and at the time of operation extensive damage to the bony orbital roof has always been found. This swollen ecchymotic facies (*Fig. 2*) has been so striking as to bear a family resemblance in many instances. All of the cases seen in the emergency stage of their injuries have had free nasal bleeding. More commonly this hemorrhage has been from both nares. In six cases a cerebrospinal leakage has been demonstrated. In two instances where there was some question as to the character of the nasal drainage, the head and face were placed in a dependent position, intravenous saline administered, the patients were given vasopressin and the cerebrospinal rhinorrhea positively established. In only two cases has there been any otitic bleeding. Both of these patients had fallen from a height and a ruptured ear drum was the only clinical or radiologic explanation for the bleeding from the ears. None of the patients seen in the acute stage has suffered any serious traumatic shock. Within an hour or so after hospitalization all have been in satisfactory physical condition for surgical treatment. As a group, there has been a definite tendency to a slowing of the pulse rate, but in no instance, even where four to ten hours have elapsed before operation, has there been any blood pressure elevation suggestive of acutely increasing intracranial pressure. Respiratory rates in none of the cases have been seriously altered and temperature recordings have been those of any mild case of subarachnoid hemorrhage. The greater number of the cases, by the time of hospitalization, have been in a deep stupor, semi-stuporous or delirious. In a few cases the delirium has been an exaggerated, wild, obstreporous type of activity. Complete absence of any conscious activity has been seen in only two of the cases. Shortly after recovery from the initial shock a fairly satisfactory objective neurologic examination was possible in both of these patients. There have been no secondary lapses of consciousness in any of the cases operated upon.

The neurologic findings in all of the cases have been somewhat alike. In the majority of the patients, delirium, and what has been interpreted as frontal lobe damage, has prevented thorough cooperation. The summarization of the positive abnormal neurologic reactions has been based primarily on objective findings. In every instance smell has been impaired or completely destroyed. Visual damage has been demonstrated in only one patient prior to operation. In the postoperative examinations visual damages (*Fig. 3*) have ranged from a quadrant defect in one eye to total blindness in both eyes and in no instance, now in some cases after a lapse of six years, has there been any improvement in acuity or visual field damages. A dilated non-reactive pupil on the side of the more extensive damage has been most constant. The majority of other ocular paralyses have been minimized following

Fig. 2
In physical appearance these patients bear a striking resemblance to each other.

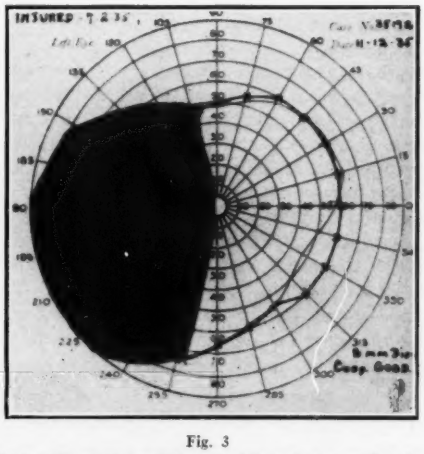

Fig. 3
During the plastic craniotomy on this patient a small scale of bone was removed from the left optic nerve.

a release of the intra-orbital fossa tension and mild exophthalmos. Impairment of function of the upper two divisions of the trigeminal nerve has been common, but more often elicited during the patient's convalescence. The same has also been true in the discovery of the olfactory dysfunctions. A contralateral facial weakness (central type) has been evident on careful search in almost every case of unilateral fracture damage. Projectile vomiting has been very constant in the preoperative stage. In addition to the delirium, complete disorientation for time, place and persons had been quite common for the first three or four days after operation. Details preceding and leading up to the accident have been recalled by only a few of the patients. Paraphasic disturbances were definite in three cases where the injury involved, primarily, the left frontal lobe. No permanent speech disturbances have occurred. Complete sphincter indifferences have been most frequent in the first week following operation. In none of the cases has there occurred any frank paralysis of the extremities and all of the cases seen in the acute stage have responded to painful stimulation of their extremities. Impairment of the superficial reflex activities has been quite constant. More commonly it has been the ipsolateral abdominal response that was affected. There has been no common disturbance of the deep reflexes. These responses have either been normal or slightly increased. If pathologic, these reactions have been more constantly confined to one side only. A positive Babinski response has been elicited in many cases, but this has not been of any localizing value.

Radiologic studies in these extensive frontal injuries have been more valuable than in some of the more common types of skull fractures. Not only has a study of the x-ray been of help in properly classifying the cases, but in a few instances these pictures have formulated the basis for the operative approach. This has been particularly true in those instances where there were no compounded wounds. Not in any instance has the extensiveness of the bony damage been completely portrayed on the x-ray plate. In those cases showing separated linear or comminuted fractures of the squamous part of the frontal plate, extensive bony destructive (*Fig. 4*) changes have been found at the time of the craniotomy. Bony depressions as depicted on x-ray studies have been infrequent. The more common radiologic depictions have been those of comminuted or linear bony changes. Even in stereoscopic film studies fractures of the thinner

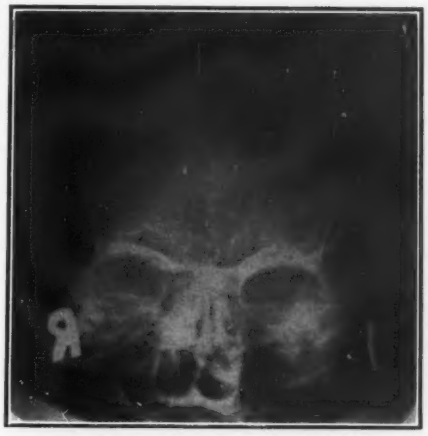

Fig. 4
Comminuted linear fractures have been more common than the depressed types.

bones of the posterior walls of the frontal sinuses, or the floor of the anterior fossa, in the absence of fragment displacements, have rarely been seen.

Linear radiations of the separated fractures have been frequently seen traversing the sphenoid ridge, and just as commonly damages to the squamous portion of this bone have been visualized in the roentgenograms. In two cases intracranial air has been demonstrated. In one instance this air was subdurally located and there was a widely separated compounded linear fracture. In the second instance (*Fig. 5*) the air was beneath the tentorium and within the ventricles. In this case the fracture of the cribriform plate was doubtful on a study of the x-ray films. The bony damages encountered in the craniotomies have been at least 40 per cent more extensive than the preoperative roentgenologic studies have depicted.

The surgical technical problems presented by these cases have been very similar. These problems have required all of the armamentarium, skill and activity that the usual craniotomy demands. The principle of the repair of these wounds has been that of radical debridement. Where the scalp wound has been of a penetrating type and not too extensive, the puncture wounds have been repaired and a separate scalp incision made. Where there has been an extensive scalp laceration, advantage has been taken of this incision for the proposed scalp reflection. The scalp incision has been planned in a few instances in accordance with fracture dam-

Fig. 5
This pneumocephalogram resulted from minimal fracture damage to the cribriform plate.

age depicted on the x-ray studies. In a few cases an orderly osteoplastic skull flap has been necessary and in these cases again the fracture lines have determined the manner in which the flap should be hinged (*Fig. 6*), either on the temporal or frontalis muscles. In the majority of the cases the damage to the squamous portion of the frontal bone has been of a comminuted type (*Fig. 7*) and after the scalp reflection, lifting out the separate bone fragments and ronguering away the bony spicules along the edges has permitted sufficient exposure of the anterior cranial fossa. Dural tears that have not been sufficient for satisfactory review of the damaged underlying structures have been opened widely. Utilizing the metal suction tip and the electrical coagulating unit, the bleeding, macerated brain tissues have been cared for in one act. The repair of the dural damages has presented the most difficult technical problems in the repair of the soft tissues. It has been necessary to ferret out the extensiveness of this dural damage in every case, and in many instances this extensiveness carries one into serious anatomical areas. Ofttimes the dural maceration has been such that the torn edges could not be approximated with sutures. In two such experiences a "dural apron" was used in effecting a closure. This apron was made by splitting the pattern from the outer layer of undamaged dura superiorly, turning it downward and suturing it in place. In another instance lateral leaves were made by splitting the dura from both sides of a one and one-half centimeter opening. These leaves were folded over the tear and sutured tightly. In one case where a too spacious dural destruction occurred, a part of the sheath of the temporal muscle was utilized, and in another case a free muscle graft was used to accomplish the closure. In two cases where the dural tear extended to the posterior rim of the anterior

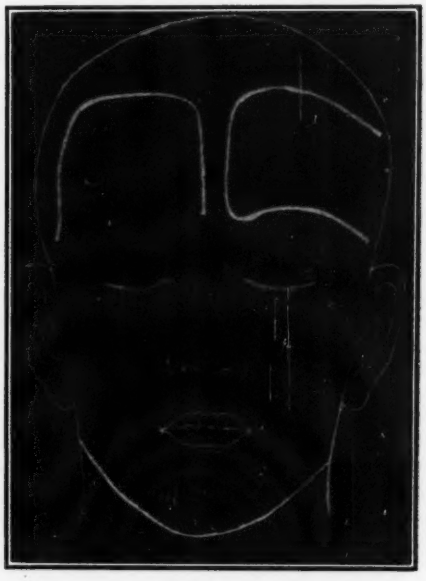

Fig. 6
Diagrammatic sketch of the two types of scalp incisions employed. The choice is made on the basis of the scalp wounds or fractures as depicted on the x-ray films.

Fig. 7
In these types of fractures it has been possible to reflect the bone fragments or lift them out without trephining the skull.

fossa an intradural closure was carried out. In all of the other cases the repair has been done extradurally. In every instance where the cribriform plate was exposed a muscle graft has been implanted over the orifices for the olfactory filaments. This has been done with the idea of further establishing a barrier against outside infection. After a "water tight" closure of the dura has been done the bone flaps have been wired in place. In the comminuted fractures, the bone fragments have been sacrificed. Drainage has been carried out in four cases. Three of these were in extensive damages to the frontal sinuses and after a complete destruction of the mucous membranes of these sinuses a small open tube drain has been brought out through one side of the nose. All of the scalp wounds have been closed in two layers, using interrupted black silk sutures.

In the three fatalities that followed emergency craniotomies two of these were the result of meningitis. In the first meningitis case death occurred on the fifth day after the accident. The craniotomy was performed sixteen hours after an extensive compounded fracture from which there was an escape of both spinal fluid and contused brain tissues. The second meningitis death occurred on the eighth day after injury and the craniotomy was carried out after a lapse of some fourteen hours from the time of the accident. There was a linear fracture of the posterior wall of the frontal fossa that extended into the anterior fossa. This man had a spontaneous pneumocephalus. Only one of these two meningitis patients had the benefits of chemotherapy. The third mortality occurred on the tenth postoperative day. An extensive empyema of the chest was found at autopsy. Histologic studies of the cranial trauma (*Fig. 8*) were those of normal primary wound healing. Culture studies of the spinal fluid and healing cerebral tissues made at the time of the autopsy were negative for any bacterial growths.

The three patients who were not operated upon as emergency craniotomies in this series illustrate the serious potentialities in these extensive frontal injuries. One was a case of a recurring traumatic meningocele of fourteen years' duration. This pulsating, reducible protrusion (*Fig. 9*) first appeared six years after the patient's injury. The frequency of its reappearance increased as the years passed. Roentgenologic studies revealed a smooth bone opening in the anterior portion of the orbital roof. There had never been any cerebrospinal rhinorrhea. The clinical and neurologic records of her hospital admission and four weeks recovery period at the time of her injury were identical with the eighteen cases operated upon in this series. Her meningocele attacks were reappearing at five to six-week intervals, and her attending headaches and vomiting never persisted for more than twenty-four hours with any one attack. Advised that an osteoplastic repair of the orbital roof plate would offer effective relief, the patient elected to defer any surgical efforts.

A second case in which a craniotomy was not done was seen four months after the pa-

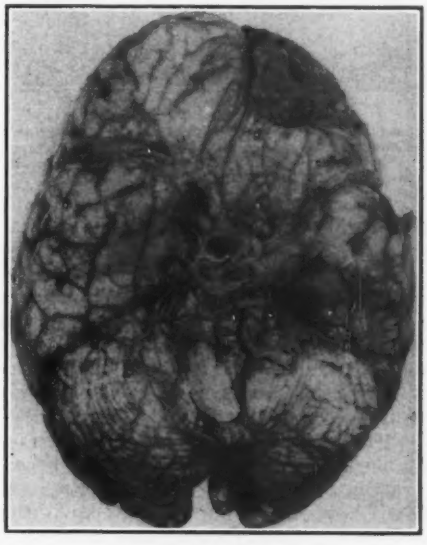

Fig. 8

Illustrates the cerebral damage to the antero-inferior surface of the left frontal lobe. Death in this case was attributable to an empyema of the chest.

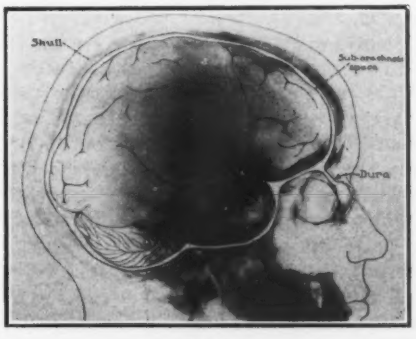

Fig. 9

This recurring meningocele of fourteen years' duration first appeared six years after an extensive frontal injury.

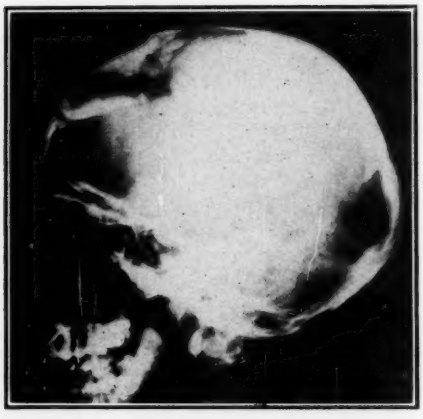

Fig. 10

This film, made four months after the patient's accident, demonstrated an osteomyelitis along the separated edges of the fracture, but did not reveal a large free depressed fragment of skull embedded in a dural scar.

tient's injury. The clinical description was unmistakably that of an extensive frontal injury. The compounded wound was treated conservatively. The available loosened bony fragments on the surface were removed and the scalp wound closed. This became infected and draining sinuses developed. These continued and at the end of four months there was an extensive osteomyelitis (*Fig. 10*) extending along both edges of the separated linear fracture. There was also an indriven infected fragment of bone embedded in a dural scar. There had been a total blindness, which was first discovered when the ecchymotic edema of the eyelids subsided some ten days after her accident. A radical excision of her diseased bone was carried out. The blindness has been unimproved after a lapse of three years. There was a complete primary optic atrophy when the patient was first seen.

The third case which was not operated upon in this series was seen five days after the accident. Shortly after his accident the patient's scalp wounds had been sutured over exuding brain tissues. On the fifth day he began to develop acute meningeal symptoms, although he had been rational enough on the third day after his injury to recognize his family. In addition to his acute infectious symptoms the clinical picture in this patient was typically that of an extensive frontal injury. A fracture of the frontal plate was easily outlined by probing through the infected scalp wounds. This patient died seven days after his trauma of a meningitis.

SUMMARY

Twenty-one cases presenting similar clinical, pathologic and surgical problems have been discussed. Eighteen of these cases were treated as emergency craniotomies. Three cases illustrating the immediate and latent sequelae of extensive frontal injuries have been included in this report. One of these is an example of the fatal complications that may be invited in the conservative management of these injuries. The two other cases are illustrative of the latent complications that may occur should the patients survive the immediate risks following their accidents. Of the eighteen cases subjected to emergency craniotomy, now, after a lapse of three months to six years, fifteen have shown no dangerous latent complications, such as two of the cases not operated upon in this report, or those sequelae reported in allied cases in the literature. It is concluded from a study of these twenty-one cases that death does not result from the fracture-brain damage, but from the ensuing cerebral infections. These infections are of such a formidable character as to suggest radical emergency surgical efforts as the only justifiable procedure of treatment.

REFERENCES

1. Fincher, E. F.: Proc. Seventh Annual Meeting, Harvey Cushing Society, 1937.
2. Cairns, Hugh: Jour. Laryngol. & Otol., **52**:589-623, 1937.
3. Teachnor, F. R.: J.A.M.A., **88**:987-989, 1927.

THE TREATMENT OF SOME LESS COMMON CORNEAL DISEASES*

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While less common than some other conditions, recurrent erosion of the cornea is still common enough to occur once or twice a year in the practice of most ophthalmologists. In my experience, it is frequently misdiagnosed, usually by general practitioners, but occasionally by ophthalmologists. The diagnosis usually made is that of corneal ulcer, but the last case seen was sent in as one of panophthalmitis. Such diagnoses are made because of the severity of the signs and symptoms, which suggest an infectious process. In reality, infection seldom occurs even as a secondary complication in this condition, and al-

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though a defect in the epithelium is present, this is in no sense an ulcer.

The real pathologic condition in recurrent corneal erosion is a loosening of the epithelium due to a primary injury, usually a slight one, such as the scratch of a baby's finger nail, a twig or a piece of sharp paper. In most cases, as is well known, such an injury to the epithelium heals in twenty-four hours without causing further symptoms. In certain persons, either on account of a congenital predisposition or the character of the injury, the epithelium, instead of healing firmly to Bowman's membrane, heals so loosely that it is easily detached. This usually occurs on awaking from sleep, and this is probably due, as von Szily, senior, has shown, to adhesion of the epithelium to the upper lid. The typical history of sudden severe pain on awaking is usually given, and marked swelling of the lids, photophobia and congestion follow rapidly. Such an attack may not occur until days or even weeks after the injury, and in some cases the disturbance immediately after the injury is so slight that the patient has given it no particular consideration.

On examination the cornea appears grossly clear, but its surface is seen on closer examination to be somewhat uneven. There is usually a small area below the corneal center which stains with fluorescein, but this may be very small or even invisible to the naked eye. The slit-lamp shows a large area of corneal epithelium which contains droplets and which is usually raised slightly in certain parts. If these areas are touched with an applicator the epithelium can be indented, and is obviously loose over a much larger area than would be suspected (*Fig. 1*).

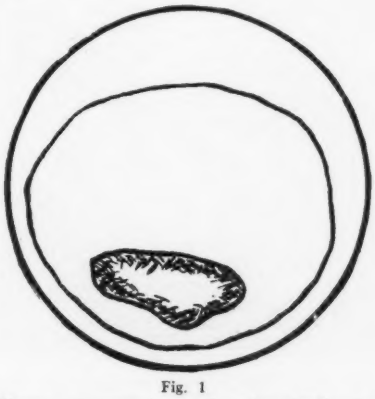

Fig. 1
Diagram of recurrent corneal erosion showing denuded area and area of loosened epithelium.

When such a condition is present, the author has found it advisable to resort at once to what might be considered radical measures. The term "adequate measures" is preferred, and seems justified by the results obtained. The usual measures of atropine, patching the eye, use of oil and even local applications to the denuded area have proven, in most cases, inadequate when once the typical picture just described has developed. Temporary healing may result from them, but recurrence is almost invariable. Cases have been seen with a history of such attacks over a period of one and one-half to two years which were permanently relieved only by the adequate procedure. This procedure is so simple and free from risk that there should be no hesitation in employing it when it is indicated. It consists in removing all the loose epithelium from the cornea with fine smooth forceps. This will often include almost the whole cornea, as all the epithelium which can be raised by such forceps must be removed, the procedure extending to the point where normal, firmly attached epithelium is encountered. This is followed by the application of 15 per cent trichloracetic acid to the whole denuded area. Such an application turns the whole area a faint grey, but this need cause no alarm, since no permanent opacity results. After thirty seconds the cornea is washed off with normal saline, a bland oil or butyn and metaphen ointment is placed in the sac and both eyes are closed by a snug dressing. This dressing should, in the author's experience, be left absolutely alone for four days, as earlier interference interferes with the smooth healing which is desired. After this time, the normal eye may be left open and the involved eye may be examined very carefully after previous instillation of oil. It is really better to postpone examination until the sixth day, merely changing the dressing on the fourth day when the other eye is left open. In more than twenty typical cases seen during the past eight years the result has been uniformly satisfactory. The cornea appears grossly smooth and shiny at the first dressing. The slit lamp shows some edema of the epithelium for a time, but this disappears within two to three weeks, leaving a few superficial opacities seen only with the slit lamp and not interfering in the slightest degree with vision. Usually olive oil is used in the sac at night for some weeks or even months, but recurrences have not been observed in uncomplicated cases.

There is a variety of this condition which has apparently never been adequately described, for which the name "micro-erosion of the cornea"

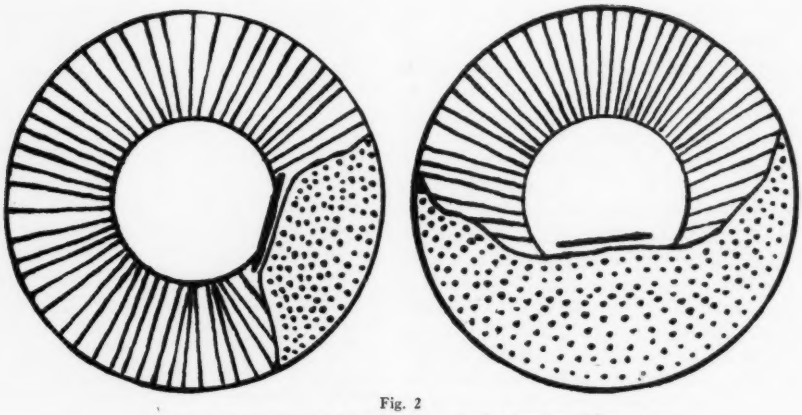

Fig. 2
Diagrams of two cases of Mooren's ulcer showing location of keratotomy.

seems useful. A similar history to that described above is given, but the objective findings are much less marked. The attacks described are more frequent but less severe than those just described, sometimes occurring every morning on awaking, with pain lasting from one-half to two hours. Grossly and with the loupe the cornea is normal. After staining with fluorescein, however, the slit lamp will show a group of fine opacities in the epithelium, one or more of which will usually take the stain. The same point may stain on repeated examinations or may heal, while another point stains if the patient is seen the day following an attack of pain. There is no loose epithelium around the tiny lesions and no sign of a bleb. That the microscopic staining areas are the cause of the pain has been proven in a number of cases by relief of pain when they have healed and no longer take the stain. Healing seems to be promoted by touching the staining area with 50 per cent or pure trichloracetic acid on a very fine cotton point, the excess being wiped off and the application being made with the loupe under the beam of the slit-lamp. This is followed by the instillation of oil and a dressing which is maintained for several days. Oil is used in the sac at night for one to several months. This condition is to be distinguished clearly from superficial punctate keratitis in which a number of lesions are present with no history of trauma. The irritation of superficial punctate keratitis is more constant during the period of inflammation, and the condition is, as a rule, self-limited.

Mooren's ulcer, or chronic serpiginous keratitis, is a much rarer condition than those just described. Its pathogenesis is not understood, as no infectious agent has ever been successfully incriminated. It seems to affect older persons, as a rule, but young and apparently healthy persons may also develop the typical condition. Like most other conditions, it has been ascribed to a vitamin deficiency, but the evidence is far from convincing. It begins much like an ordi-

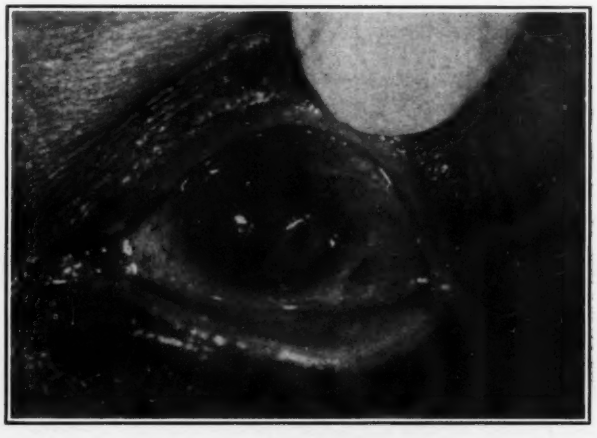

Fig. 3
Mooren's ulcer showing conjunctival flap and location of keratotomy performed later.

nary marginal ulcer, but instead of healing, goes on slowly to involve the greater part of the cornea during a period of three to six months. Healing near the limbus is accompanied by growth of new vessels, while a small area at the central border continues to stain as it progresses into the clear cornea. Such an ulcer never perforates, and hypopyon is never present. With the usual methods of treating corneal ulcers, results were invariably bad. Of five such ulcers reported by Heintz, three required enucleation, one covered the cornea completely, and one was still active when the report was made. Bedell reported two cases in which the cornea was covered. In a number of cases the second eye develops an exactly similar condition. In 1933 the author[1] reported the results in three cases and summarized the cases in which reports of a favorable outcome were made. These included one case each by Jones and Dean in which thorough undermining and cauterization of the swollen subconjunctival tissue were successful. The author has seen this method employed in several cases, however, without results. Kreiker reported three cases in which healing was obtained by a conjunctival flap which was placed well in advance of the involved area. One of the author's cases was healed by this method, the flap being made to adhere by the use of trichloracetic acid on the under surface of the flap and on the healthy epithelium in advance of the ulcer. Vision was 20/40 and the flap, so far as is known, is still present over half of the cornea. He has seen a flap fail, however, in a similar case, in which the method to be described was later successful. The other successful cases were those of A. Fuchs, who employed repeated paracentesis in two cases, and of Nechitch, who performed cautery puncture of the ulcer with evacuation of the anterior chamber in four eyes.

The same principle was employed in the author's other cases, but the tension was reduced by the method of delimiting keratotomy as employed by H. Gifford in cases of true serpent ulcer.[2] The advantage of this method is that the cut can be reopened quite simply every day till healing is complete. The cut is made with a Wheeler knife or narrow cataract knife, after injection of anesthesia and with good fixation. On account of the size of the ulcers, it could be made truly delimiting in only one case, while in the others it was placed just in advance of the most active area (*Fig. 2*). It was opened every day or every other day until healing had appeared to be complete for several days. This required two to three weeks in most cases. The results were good in the two cases previously reported, with vision of 20/50 and 20/30. In four cases seen since that report, results were equally satisfactory. Vision was 20/40 and 20/50 in two of these. It was at best 20/50 in the other two cases at the time of healing, a later check of vision being unobtainable.

In one of these cases, a conjunctival flap had been placed over the ulcer, and it seemed to heal under the flap. After a month, however, an active area of ulceration appeared beyond the lower border of the flap and progressed until keratotomy was performed (*Fig. 3*).

In a case seen in consultation during the past year, the procedure was performed by a reliable surgeon, and the wound reopened daily for several weeks, but without success. The ulcer, which had already involved all but a small central area of cornea, progressed and involved this area as well. The patient was a woman of seventy. Injection of thiamin chloride, following the encouraging report of Suurküla,[3] was also given in this case, but no effect could be noted.

The effect of keratotomy in these cases seems to be, as in true serpent ulcer, due to the reduction in ocular tension with an increased supply of lymph and antibodies brought into the corneal lymph spaces. The procedure is recommended as that most likely to secure healing in this rare but exceedingly serious condition.

Superficial punctate keratitis, formerly considered somewhat rare, has been seen, or at least recognized, with increasing frequency during the past few years. So many cases have been reported from Germany during 1938 to 1939, for example, that the condition was described as an epidemic. While not so many reports have appeared in our literature, conversation with colleagues indicates that the condition is quite commonly seen, especially during the spring and fall, in most of our large cities. The typical picture described by Fuchs is commonly recognized, since the round grey infiltrates are large enough to be seen with the naked eye or with the loupe. A type which is even more common, however, is apt to remain undiagnosed unless the slit-lamp is employed. In it there is marked conjunctival congestion with some chemosis. This is said to precede all corneal involvement, but in most of the author's cases, some corneal lesions could be seen with the slit-lamp at the patient's first visit. These lesions are often absolutely invisible to the naked eye, but show with the slit-lamp as numerous minute dots and streaks in the epithelium which stain with fluorescein until they heal, when

a superficial opacity remains for a time, followed by almost complete disappearance. This form of the disease, unless the slit-lamp is employed, is usually diagnosed as acute conjunctivitis. The author recently saw an ophthalmologist who had been treating himself for conjunctivitis for a month without effect. Since he could not examine himself with the slit-lamp, he could not see the fine epithelial lesions, which were very numerous upon both corneas. The intensity of the process varies greatly in individual cases, from moderate congestion with five to fifteen minute lesions, to an extreme case such as the following:

Miss R., a nurse, aged 52, was seen after she had been under treatment for conjunctivitis for one week. Slit-lamp examination showed the right cornea to be absolutely covered with grey streaks and dots, most of which stained with fluorescein. The corneal surface suggested that of a field which had been scraped thoroughly by a harrow in both directions. The condition was very refractory to treatment, requiring three months to become quiet, but finally healed with almost imperceptible scarring and vision of 20/20. Two years later a similar condition affected the left eye, but treatment was begun at once and healing was complete in three weeks.

Treatment of this condition, whether in the usual form or the micro-form just described, is by no means satisfactory. It is fortunately self-limited in nearly all cases, the duration of symptoms varying from two weeks to three months, the latter being exceptional. The use of Cowan's solution, a 2 per cent solution of potassium iodide with two drops of compound iodide solution to the ounce, by instillation three or four times a day, has seemed to be of value. When one eye only is affected, closure of this eye by a dressing until healing is complete is advised. When both eyes are affected, the one most severely affected is closed until it has healed, when the other is closed for the same period. The author has hesitated to use packs of Pregl's iodine as advised by Cowan, but they may be tried in obstinate cases. When larger lesions occur, one careful application of trichloracetic acid or iodine solution to each lesion seems to hasten healing, but does not prevent the appearance of other lesions. There is some evidence that shrinking the nasal mucosa, when this is swollen, aids in relief of symptoms.

Keratoconjunctivitis sicca is to be distinguished sharply from superficial punctate keratitis, in spite of certain superficial points of resemblance. In its typical form keratoconjunctivitis sicca is easily diagnosed. The dry appearance of the conjunctiva, the shreds of ropy or "chewing gum" secretion which adhere to the cornea, and the presence of filaments of epithelium on the cornea make up a picture so characteristic that it should never be confused with anything else. Such cases, which have been studied completely by Sjögren,[4] are relatively rare. They depend upon chronic inflammatory changes in the lacrimal glands, associated as a rule with arthritis and often with a similar disease of the salivary glands, resulting in marked deficiency of secretion. What is not generally known, however, is that less marked changes of a similar character are not very uncommon in middle-aged or elderly persons, as shown by de Roetth[5] and Bruce,[6] and that they produce a picture which is commonly mistaken for chronic conjunctivitis due to bacteria or other agents. The picture in these milder cases is one of chronic conjunctival irritation with moderate secretion. Typical deforming arthritis is not present, nor is the salivary deficiency marked enough to be mentioned by the patient. On questioning, however, patients will often give a history of mild arthritis, and will admit a dryness of the mouth as indicated by the need of taking water frequently while eating. The cornea is grossly normal and the conjunctiva only moderately congested. Tests of the lacrimal function, however, will reveal a marked deficiency of tears. The test, as described by Schirmer, consists in placing strips of filter paper over the lower lid and measuring the extent of paper which becomes moist after five minutes. Following de Roetth's suggestion, we have used Whatman Number 41 filter paper, cut into strips 30 mm. long and 5 mm. wide. The upper 5 mm. is folded and hooked over the lid so as to dip into the lower *cul-de-sac* at the junction of the inner two-thirds and outer third of the lid. Patients are asked to close the lids most of the time, but to wink when they wish. After five minutes, in normal persons, the whole paper is usually wet. Anything less than 15 mm. is considered evidence of lacrimal deficiency. Most persons with keratoconjunctivitis sicca of even mild degree will not wet more than 5 to 8 mm., while in severe cases the paper will not be wet at all. Such cases when examined with the slit-lamp will show numerous tiny opacities in the epithelium, especially in its lower half, many of which stain with fluorescein. This simple test of lacrimal function has revealed, in our practice during two years, at least twenty-five cases of the mild form of keratoconjunctivitis sicca as well as having confirmed the diagnosis in five typical severe cases.

Treatment, when once the diagnosis is made, will not bring about a cure, but will usually af-

ford marked relief of symptoms. Most important is the removal of all irritating solutions such as are commonly used in chronic conjunctivitis. Next is the liberal use of a substitute for tears. The most valuable solution we have found is 0.7 per cent gelatin in Locke's solution, as suggested by Rucker. Three grains of chloretone are added to the ounce as a preservative. This solution is used five to six times a day, or oftener if symptoms demand. Its use may be all that is required in certain mild cases. In more severe cases, closing the lower tear-points as advised by MacMillan and Beetham, is of great value by retaining all available tears in the conjunctival sac. Patients who do not secrete more than 5 mm. of tears on repeated tests will never be troubled by epiphora after the lower puncta are closed and will be much more comfortable. In extreme cases the upper puncta may be closed as well. The author has found it simpler to destroy the lining of the lower puncta by pure trichloracetic acid on a very fine hard applicator after dilatation, than to use the actual cautery. Certain measures may increase lacrimal secretion in some cases. Patients with menopausal symptoms are given estrogenic extracts, and those with a low metabolic rate are given thyroid extract with some apparent benefit. All are given vitamin A, which may also be of value. The slit-lamp will usually disclose a few staining areas while such patients are under treatment, but these are nearly always much reduced in number, and a very marked relief from symptoms is nearly always noted, especially after closure of the tear points.

SUMMARY

(1) Recurrent corneal erosion has healed almost invariably following removal of the loose epithelium, application of 15 per cent trichloracetic acid and closure of both eyes for four days.

(2) In Mooren's ulcer delimiting keratotomy is recommended. A conjunctival flap may be employed, but with more inconvenience and less assurance of success.

(3) Superficial punctate keratitis is usually self-limited. Symptoms may be relieved and the course of the disease, in all probability, shortened by use of Cowan's solution, closure of the eye and application of trichloracetic acid to the larger lesions.

(4) Keratoconjunctivitis sicca should be recognized in its milder form by more frequent use of the Schirmer test. Treatment includes removal of irritating antiseptics, use of a substitute for tears and, in more severe cases, closure of the lacrimal puncta.

REFERENCES

1. Gifford, S. R.: Arch. Ophth., **10**:800, 1933.
2. Gifford, S. R.; and Gradle: Amer. Jour. Ophth., **17**:602, 1934.
3. Suurkula: K. M. f. A., **102**:500, 1939.
4. Sjogren: Acta Oph., **10**:405, 1932; Supplement II, 1933; **13**:1, 1935; **15**:519, 1937; **16**:70, 1938.
5. de Roetth: Arch. Ophth., 1940, to be published.
6. Bruce: Trans. Amer. Ophth. Soc., 1940, to be published. Also Arch. of Oph., to be published.

FENESTRATION OF THE LABYRINTH IN CHRONIC CONDUCTIVE DEAFNESS*

AN ANALYSIS OF RESULTS OBTAINED

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It is comforting to realize in these days in which many important advances have been made in physical and chemical scientific endeavor that comparable advances have also been made in medicine and surgery. During the past few years, while the medical world has been amazed and gratified with the results that have been achieved in the treatment of bacterial infections by specific chemotherapy, the advancement of surgical effort has been almost equally important, particularly in the surgery of the chest and lungs and in the surgical treatment of chronic deafness. It is extremely gratifying to the otologist to realize that there is now a therapeutic procedure whereby he may give considerable improvement of hearing to a very large class of patients with chronic progressive deafness, while prior to a few years ago it was necessary to consider all treatment of such conditions hopeless.

Great credit for the advancement of surgery for improvement of deafness must go to the pioneers in this work who have expended much thought and effort in experimental research upon surgical technic to bring the procedure to its present state of development. The surgical procedures for the treatment of chronic progressive deafness have had, for the most part, as a basis for their success, the creation of a fenestra into some part of the labyrinth of the internal ear mechanism. It has been the common experience in the earlier efforts of Jenkins[1] and Barany[2] and in the later efforts of Holmgren[3] and Sourdille[4] that fistulization of the labyrinth gives an imme-

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diate improvement of hearing in cases of otosclerosis or in cases of conductive deafness in which the bone conduction is unimpaired.

In many such cases which had been operated upon, however, the improvement of hearing was maintained for only a short time, bony regeneration quickly causing a closure of the labyrinthine fistula. The real problem therefore, in attempts to advance this work, has been to devise a means of fenestrating the labyrinth so that it will remain open permanently. Considerable success in accomplishing this result has been obtained in the past three years in this country by following a surgical technic which is essentially the one advocated and developed by Sourdille, but has been modified into a one-stage practical operation by Lempert.[5] A large percentage of suitably selected cases which have been operated upon by various otologic surgeons according to this technic, have been successful from the standpoint of a practical improvement of hearing and tinnitus with preservation of the improvement beyond a time when bony regeneration ordinarily would have occurred.

At this time I should like to discuss briefly something concerning the indications for this operation and the results that may be obtained with a brief summary of results in a series of cases operated upon by myself in the past two and a half years.

INDICATIONS OR PREREQUISITES FOR THE OPERATION

If good results are to be obtained in this operation it is important that the patients be properly selected. From the experience of those surgeons who have been performing this operation for the past few years it appears that the following prerequisites are essential:

(1) Conductive deafness of a degree in which practical hearing has been lost but less than of a profound degree. If practical hearing is to be restored by the operation it is necessary that the deafness before operation be not too great. If the deafness is profound even a considerable improvement of the hearing by operation may not bring it back to a level of practical hearing.

(2) Good bone conduction is extremely important. When the tests give a lengthened bone conduction, and a negative Rinne and a Weber test showing lateralization to the deafer ear, it is good evidence that the factor of bone conduction is favorable. In testing by the audiometer, with masking, the bone conduction must be reduced not more than 30 decibels at the 512, 1024 and 2048 frequencies if good results are to be obtained.

(3) Normal vestibular mechanism. When the Barany and caloric tests give a normal reaction the vestibular factor may be considered satisfactory.

(4) Absence of any aural infection. This is important because of the danger any infection might give to the internal ear structures.

(5) Preferably normal tympanic membrane and middle ear. While probably the best results will be obtained in cases in which the drum and tympanic cavity are entirely normal, at least good or fair results may be obtained when the drum and middle ear show the effects of middle ear abscesses at earlier times, such as thickened, retracted, scarred and even perforated drums.

(6) Normal membranous and bony canal walls. Any dermatitis or eczema of the cutaneous lining of the auditory canal should contraindicate operation until such conditions have been corrected. Exostoses of the posterior bony canal wall may interfere with the preservation of the cutaneous membrane covering this area which is to be used to cover the fistula in the semicircular canal.

(7) Generally good condition of the patient. No definite age limit need be set as some patients of advanced years may stand such a procedure better than younger ones.

Such requirements as the above eliminate very definitely all patients with the nerve type of deafness, except those who appear to have nerve involvement affecting the higher frequencies only. Those cases of conductive deafness that have resulted from suppurative otitis media at one time or frequently recurring middle ear troubles need not necessarily be excluded from the operation, as it has been found by experience that many such cases are improved. However, probably the best results will be obtained in those typical cases of otosclerosis in which there is fixation of the stapes, a normally functioning eustachian tube, a normal tympanic membrane and a hearing loss of approximately 50 decibels for the three most important conversational frequencies (512, 1024 and 2048).

RESULTS OBTAINED BY THE OPERATION

There has been some skepticism and difference of opinion among various otologists and others regarding the reality of favorable results with this labyrinth fenestration operation. This has

been induced somewhat by some early, apparently premature, favorable results reported without taking sufficiently into consideration certain factors that would tend to give an analysis of results a scientific basis: such factors as an adequate elapsed time since operation, the proper preoperative tests to set a basis for later comparison, the proper consideration of psychologic factors concerned, the comparison of the operated and unoperated ears after operation, and so on.

Of particular importance is the time elapsed since operation in reporting results. In Lempert's early report[5] there was a statement indicating his belief that a fistula that has not shown signs of bone regeneration after two months will remain permanently open. My own experience indicates that this is entirely too short a time to judge the permanency either of a fistula or the improvement of hearing which has been obtained. In two instances I have not obtained the best improvement of hearing until after the two-month postoperative period, and in one of these all improvement was subsequently lost. The hearing result should not be judged as final until at least one year has elapsed since operation.

The earliest results obtained by the fenestration operation by the pioneers in this work have been almost universally unsuccessful because of early closure of the fistula. The later work of Holmgren and Sourdille, however, appears to have been at least partially successful, and it is unfortunate that in Sourdille's cases there was not a standardized method of ear testing because it seems quite definite that many of his patients received much improvement of hearing and have retained open fistulae for periods of 6 or 8 years. Without accurate scientifically recorded measurements of hearing before and after operation, his results are generally not acceptable, although it is possible and quite likely that they are as good as the results obtained with his modified technic in use at the present time in this country.

The results obtained in the fenestration operation by otologic surgeons in this country in the past three years have been impressive and should stimulate a wider use of this therapeutic procedure. These results for the most part, have been based on modern scientific procedures of hearing measurement with multiple audiograms before and after operation upon both ears with masking of the untested ear where necessary; and in many cases the testing is done by an uninterested person without reference to previous audiograms. Such recorded results can be subjected to statistical analysis from various angles and true objective findings established.

WHAT RESULTS MAY BE EXPECTED FROM THE OPERATION?

It may be stated that a favorable result is obtained when there has been a permanent improvement of hearing to a practical level, a lessening of the tinnitus or a prevention of further progression of the deafness.

As far as the technical success of the operation is concerned there need be only the improvement of hearing which need not be to a practical level. For instance, if a patient has an average of 80 decibel loss of hearing before operation and is improved by the operation to 55 decibel loss, this 25 decibel improvement can be considered as representing a successful operation, although the patient's hearing is still not at a practical level. From the patient's standpoint such a result would not be worth-while unless there had been, as is frequently the case, a coincident lessening of the accompanying tinnitus.

What amount of decibel improvement would be considered as constituting a successful result from that standpoint alone? Probably no definite answer should be given to that question. Much depends on the degree of deafness before operation. A patient with an average loss of 50 decibels of hearing would require an improvement of 15 or more decibels to bring his hearing to a practical level; but a patient with a hearing loss of 40 decibels would notice a distinct change for the better with an improvement of 8 or 10 decibels. The recorded improvement of 8 or 10 decibels will not be considered a real improvement by the critical analyst as he will argue that the normal variation in ear testing is 10 decibels or more. However, when there have been repeated audiograms before operation and definite figures established for each frequency, the postoperative improvement of 8 or 10 decibels can be considered a real improvement particularly when the unoperated ear, under the same conditions and at the same time, shows no improvement whatsoever or possibly shows a loss of hearing. From the scientific standpoint the audiometric measurements will be the test of the success or failure of the operation, but for practical purposes the success of the operation will be measured by the patient himself, that is, the subjective improvement of his hearing and the increased comfort he attains in his daily contacts.

In considering results from the standpoint of tinnitus it must be kept in mind that the operation, in nearly all cases, will improve or stop the accompanying tinnitus when the hearing is improved. The change of the tinnitus appears to parallel closely the change of the hearing. When the hearing is improved only slightly there is apt to be only slight lessening of the tinnitus. When the hearing is greatly improved the tinnitus is also greatly lessened or stopped. If, after much improvement of the hearing, it becomes worse again, the tinnitus increases. Occasionally there will be some lessening of the tinnitus even though the hearing does not improve. This probably occurs only if the fistula remains open.

Whether or not the labyrinth fistulization operation has any retarding effect on the progression of the deafness cannot definitely be answered at present. In one of my successful cases operated upon 2 years and 3 months ago there has been no loss of hearing in the unoperated ear. In another case there has been a 10 decibel average loss in the unoperated ear, while the improvement in the operated ear has been maintained.

In a fair analysis of results obtained by the operation, the cases should be separated into two groups. One group should contain those operated cases in which there were the proper prerequisites present before operation. The second group should be composed of those patients who had not the proper prerequisites and therefore were not suitable cases for improvement of hearing by operation. Naturally the results in the first group will be much more favorable than in the second group and much more favorable than if the results are based upon all operated cases regardless of the type of case. Favorable results in the second group naturally will be few or none. This group represents cases that are largely experimental. It has been only by operating upon many cases that are now known to be unsuitable that we have learned to know, at least to some extent, just what are the conditions that make a case suitable for this type of operation.

At this stage of our knowledge and experience with the labyrinth fenestration operation it would seem unwise definitely to promise lasting improvement in the patient's hearing or to state how much the hearing can be improved. On the other hand, if the patient has the proper prerequisites it seems justifiable to tell him that he stands an excellent chance (statistics show it to be about 80 per cent) of obtaining a practical improvement of his hearing and tinnitus which is believed to be permanent in a very high percentage of cases (about 80 per cent). It must be kept in mind that some operated patients lose their early improvement due to closure of the labyrinthine fistula by bony regeneration or fibrous tissue formation. The improvement of hearing occurs almost entirely in the middle frequencies (1000 to 3000 d.v.). This is fortunate because these frequencies are by far the most important for the understanding of speech. There is usually some improvement also in the lower frequencies (128, 256 and 512) and occasionally the improvement in these frequencies is marked. On the other hand, there is no improvement obtained in the higher frequencies and at times there is a loss shown. This is unimportant, however, as these frequencies are not essential for the intelligibility of speech.

In most patients the greatest amount of hearing improvement has been present within a few weeks after operation. There is apt to be a lessening of the hearing during the first two or three weeks, then a gradual improvement, to reach the optimum at about 3 to 5 weeks after operation. In those cases in which the fistula remains entirely open there will be no subsequent lessening of the hearing. In those cases which are unsuccessful due to closure of the fistula there will be a gradual reduction of the improved hearing after the sixth week until all the improvement has been lost, as the negative reaction of the fistula indicates that it has closed. Some cases will lose some of the improved hearing after the sixth week due to partial closure of the fistula either by bone or fibrous tissue, but will retain a sufficient improvement to be benefited. The final result, therefore, may not be a retention of the maximum obtained, but still of a degree that can be of great practical importance to the patient.

Regarding the amount of hearing improvement that may be obtained, it can be stated that in the most favorable cases an improvement of 30 to 35 decibels can be obtained in three conversational frequencies (512, 1024 and 2048). In the majority of cases, however, this degree of improvement is not retained. The majority of successful cases receive an average gain of 18 to 20 decibels for the three conversational frequencies and the less successful cases may receive an improvement of only 8 or 10 decibels. In the latter cases, however, this hearing gain may still be of practical importance depending largely on the degree of deafness before operation and whether or not the tinnitus has been reduced.

In those cases which have been unsuccessful from closure of the fistula (about 20 per cent) it is possible again to obtain improvement of the hearing by a subsequent revision operation. In the revision the fistula is reopened, removing very carefully the bony or fibrous tissue which had closed it and replacing the elevated skin over the reopened fistula. The revisions appear to have been only fairly successful as there is a tendency for the fistula again to close and there is also some danger of damaging the membranous labyrinth with subsequent loss of the vestibular and perhaps also the cochlear functions.

The opinions above expressed on the operative indications and results have been based largely on my own experience in the labyrinth fenestration operation. During the past two and a half years I have performed this operation upon 31 patients and in four of these cases I have done revisions subsequent to the primary operation. My results have shown considerable variations, as in some instances the proper indications have not been present for the operation. It has been only by the operative experience of those engaged in this work that the indications and prerequisites for the operation have been established.

Of these 31 patients operated upon, exactly proper prerequisites including good bone conduction, normal vestibular function, normal ear drum and proper degrees of deafness were present in only 17 cases. The remaining 14 cases showed such unsuitable factors as the following: history of ear abscess, scarred and perforated drums, deafness of profound degree, dead vestibular apparatus, absence of drum and ossicles (radically operated mastoids) and poor bone conduction. Of these 17 cases possessing the proper prerequisites for operation, 14 retained satisfactory improvement of hearing or a percentage of 82.4. The remaining three cases lost their early improvement because of closure of the fistula. Of the 14 cases which did not possess suitable indications for operation three obtained improvement of hearing. These were patients who had had middle ear abscesses and showed thickened, scarred and in one case a perforated drum.

Of the 17 cases that have retained improvement, 8 have been operated upon for a year or more and these 8 have retained an average of 17.4 decibels improvement for the 3 conversational frequencies. The remaining 9 show a higher average of decibel improvement (21.7) but sufficient time has not elapsed since operation to be certain that the hearing improvement now present will be retained.

With its present state of development the labyrinth fenestration operation offers a definite and practical surgical procedure for the improvement of hearing in properly selected cases of chronic progressive deafness. Much experimental research on technical and physiologic problems connected with this work is necessary to clarify some uncertainties and perhaps simplify the operative technic. Some experimental laboratory work and much clinical work is now in progress and we can be certain of a rapid advancement, in the near future, of the surgical therapeusis of deafness.

REFERENCES

1. Jenkins, G. J.: Treatment of Otosclerosis. Jour. Laryng. & Otol., **29**:320, 1914.
2. Barany, R.: Die Indicationen Zur Labyrinth Operation. Acta. Otolaryng., **6**:260, 1929.
3. Holmgren, G.: The Surgery of Otosclerosis. Ann. Otol., Rhin. & Laryng., **46**:3 (March) 1937.
4. Sourdille, M.: New Technique in the Surgical Treatment of Severe Progressive Deafness from Otosclerosis. Laryngoscope, **47**:853 (Dec.) 1937.
5. Lempert, Julius C.: Improvement of Hearing in Cases of Otosclerosis: A New One-Stage Surgical Technic. Arch. Otolaryng., **28**:43 (July) 1938.

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FRACTURES OF THE PELVIS*

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There will be no effort in this paper to open up any new theories of treatment or management of pelvic fractures, nor will there be any effort to discard the old and tried methods. I want only humbly to present a repetition or a resumé of what has previously been said in voluminous publications, and a few observations made in my treatment of these injuries.

First, the mode of injury resulting in fractures of the pelvis must necessarily be one of great violence; one of a crushing nature. In our community where we have the crossing of two national highways, plus the average local traffic, many automobile accidents occur, and with the increase of speed of the present day, collisions and wrecks are of such moment as to inflict violence sufficient to produce fractures of the pelvis. Again, we live in the heart of a coal-

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mining community where both strip and shaft mining are done. Also, we have our local railway shops, and these industries give rise to many accidents.

Wherever men work with and around heavy moving machinery, severe crushing injuries are apt to occur. The commonest cause of these injuries in our community is falling of slate or coal, or men rolled between cars, loading machines and the rib or side of the coal wall either in rooms or in the entries of the mines, and occasionally a man will be caught and crushed between railway cars.

These injuries should all be hospitalized at least until the extent of the injury can be ascertained. Since the severity can be determined only by time, x-ray and complete examination, it is necessary to keep even the less injured in the hospital until we are sure of the condition.

There are many different types of pelvic fractures, some serious and others of less concern. Seldom do fractures of the coccyx, the sacrum and the pubes result from this type of injury, and when they do, if they are not complicated with other pelvic injuries, they demand little or no treatment, except for complete bed rest, which can be obtained at home. But the commoner types, which consist of fractures of the wings of the ilium and fractures of the iliopubic and ischiopubic rami, the sacro-iliac union and fractures of the acetabulum, all demand hospitalization from six to twelve weeks, depending upon the extent of the injury and the involvement of the soft tissue.

It is not my intention to discuss injuries to the coccyx, sacrum, pubes or acetabulum, since they are less common, but my thought will be directed to the more common types and to the examination, diagnosis and treatment of these fractures.

You will bear in mind that since severe violence is necessary to crush the pelvic bones, and the patient has undergone a serious injury, probably you will find him in shock, with weak pulse, cold, clammy perspiration, pale, and he will speak in a weak voice. Many times he is in such profound shock that he complains of pain only when he is moved. Regardless of what the injury is, and regardless of how severe or how serious it may seem upon first observation, the patient must first be treated for shock. While some examination may be made during the period of shock, no manipulation, nor moving of the patient, nor x-rays should be made until he has recovered from the primary shock.

One may in the beginning, while awaiting his improvement, try to determine the damage to the soft structures. A catheter is passed into the urethra to determine whether there is a ruptured bladder. If the catheter passes into the bladder and clear urine is drawn away, then one knows there is injury neither to the urethra nor to the bladder. If, however, the catheter fails to pass in, and reasonable effort has been made with regular catheters, and blood is coming from the meatus, it may readily be decided that the urethra has been severed. One then tries to introduce a whipcord catheter and anchor it in, if he is successful in getting it into the bladder and obtaining clear urine. If this fails, then a perineal section must be made, a catheter installed through the penis into the wound, then through the upper fragment of the urethra into the bladder, the catheter being anchored and the urethra sutured. If the catheter is introduced into the bladder and blood is withdrawn, a ruptured bladder is certain, and a suprapubic incision must be made and cystotomy done. If the rent in the bladder is extensive, it should be sutured; but if not, adequate drainage will be all that is necessary.

No operative procedure must be attempted until the patient has recovered from the primary shock. One should, however, make a digital examination of the rectum, or if the patient is female, make a vaginal examination. This will disclose any rent or tear in the rectum or vaginal wall. Suturing will be necessary if this condition is found. With careful examination one can sometimes feel the severance line of a torn urethra.

It is also quite possible by this means to make a very accurate diagnosis of fractures of both the anterior and posterior rami. If you have never made this examination, but have depended wholly upon x-ray, you will be gratified to learn how well these fractures sometimes may be palpated. This method will also give a much better knowledge of how the anatomical structures of the bony pelvis can produce damage to the soft parts.

After shock has subsided, x-ray examinations should be made. If the surgeon is not equipped with a bedside portable x-ray, the patient may be removed to the x-ray room. However, care must be instituted, as damage is sometimes done by even slight manipulation. Fortunately the pelvis is so constructed that most of it can be visualized on an anteroposterior picture. If there should be a fracture of the wing of the

ilium or the acetabulum that does not show up satisfactorily, this can be clarified by taking the x-ray at the proper angle better to visualize the fracture. In this manner there need be no mistake in diagnosis.

I have already mentioned the most frequent complications, but there is another that I shall call your attention to, which not infrequently comes to our attention, namely, gravity pneumonia. We should be always on the lookout for pneumonia, especially in the aged and those patients whose position cannot be shifted or who cannot be turned over one or more times a day to relieve congestion.

Decubitus ulcers or pressure sores, of course, are always annoying, and are present to some degree in most cases. The treatment for these consists first of relieving the pressure, and secondly of the application of some stimulating substance, of which there are several kinds.

We all have our ideas of how to treat these different conditions, and I shall give you our procedure, which, of course, is not wholly original, but which we have used successfully in many cases.

We shall begin with fracture of the wing of the ilium. This may be quite a simple affair, with anything from an incomplete fracture to one quite complete with a displacement of the fragment. With an incomplete fracture there is nothing to do except to keep the patient in bed. In cases of displaced fragments the treatment is just about the same. Many authorities will have one reduce the fragment as best he can and bind the part with adhesive to hold it in place, but after all this cannot really be done. There is only one type that can be improved upon, and that is the fracture in which the crest and anterior-superior spine of the ilium tend to turn inward. As a matter of fact, I never saw one that tended to turn outward. But, on this type a fishhook-like arrangement can be hooked into the crest of the ilium and enough tension put on it to draw the fragment up to its position, where it is strapped and made secure with adhesive. As a matter of fact, if one keeps these patients in bed and does nothing else, he will get good results. The only trouble I have in these lesser injuries is in making the patient think I am doing something for him. I take care of that by sticking wide strips of adhesive across his pelvis, loosely, mind you, so that they make no pressure on the broken fragment and do not tend to force it out of position. This makes the patient think he is getting necessary treatment, and he is more satisfied to be bedfast for four to six weeks.

Now, as to the types of fractures which involve the iliopubic and ischiopubic rami. These will vary in a considerable degree from simple fracture on one side without displacement, which is quite simple to handle, to the more severe types where we have displacement. And by the way, these simple fractures are the ones upon which one can improve his reputation as a surgeon. I might say here that seldom, if ever, is there a fracture of the iliopubic or the ischiopubic rami without a fracture of the other. The treatment for these conditions really needs nothing but bed rest, and if one were brave enough to give them only that, his results would be satisfactory. Instead, a body and thigh cast are usually put on them, which makes their convalescence more uncomfortable than it need be, in order to appease the patient, his family and the neighbors. In these cases there is, of course, a straining of the iliosacral union, but there will be no definite fracture. Therefore, this immovable joint will hold the fragment in good apposition, and results will be good whatever the treatment.

But now we are coming to the condition that really tests our skill, the condition that gives all the worry that one wishes to put into it. These are the cases which have either unilateral or bilateral fractures of the iliopubic and ischiopubic rami with displacement either outward or inward. These necessarily have complete fracture of the iliosacral joint either unilaterally or bilaterally, and these are the ones for which I wish to emphasize our simplified treatment.

We shall first take up the type in which there is overlapping of the fragments. These have formerly been treated in various ways and with varied end results. We have found that these patients must be manipulated only when under deep anesthesia. The patient is placed upon an Albee or Hawley fracture table, slight traction is made on the legs, and the legs are abducted to about a thirty-degree angle. The assistant with a pull strap around one thigh, high up next to the pelvis, and the operator with a pull strap around the opposite thigh, with moderate, simultaneous pull can reduce most of these cases with comparative ease. This, of course, can be checked with x-ray to see whether or not the overlapping is reduced sufficiently. After the pull straps are released, the fragments will usually stay in position because of the abduction of the thighs and the traction made upon the legs. If, however, they do not stay in position, over re-

duction is attempted, and then the fragments are allowed to settle back into position. After this reduction a well-padded cast is applied over the body, pelvis, and extending down over the thighs to and including the feet. This is the trick that is overlooked by most operators. This is one of the observations I wish to emphasize. Too many times the operator extends the cast to the knees or down covering one foot, but no matter how tightly the cast is applied, there will be enough movement in the cast and slippage up and down to allow the fragments to get out of position. But when the cast is extended down over the legs and feet it cannot slip. This will insure the fragments' remaining in position. After about four weeks, however, the cast may be cut off at the knees and motion allowed in the knee joints.

After the cast is applied, it should be allowed to dry for one-half to one hour after completion to insure that it will not break upon removing the patient from the fracture table in taking him to his room. It might be said before leaving this subject that complete reduction will not always be obtained, and the fragments will insist upon overlapping when the side pull is released, making it necessary to have two assistants continue the side pull upon the thighs until the cast is complete before releasing the straps. Care will be taken not to put too much traction on the legs because it is possible to displace the fragments at the iliosacral joint. Sometimes this condition is present even before attempts at reduction are made, but this is overcome quite successfully by having the leg on the side involved well extended and abducted and by making sudden heavy pressure on the leg, or by continuous pressure on the leg assisted by a heavy blow on the heel with one's hand. It is to be remembered also that in severe crushing of the pelvis either one or both iliosacral joints are opened and the wings of the ilium displaced inwardly, but with the procedure described before, that is, the leg traction and the side pull on the thighs, downward pressure can be exerted upon the anterior-superior spines, and quite effectively reduce the displacement.

These patients should remain on the back for two or three weeks before their position is changed. As I have said before, hypostatic pneumonia will have to be watched for, so it is best to raise the head of the patient's bed. If the bed cannot be raised and lowered, shock blocks should be placed under the upper legs of the bed for one hour each morning and afternoon.

If these patients are first put upon a fracture table, the feet fastened with constant traction, the thighs while in this position are pulled apart, disengaging the overlapped fragment, and if a cast such as I have mentioned is applied while they are in that position, a good result is practically guaranteed.

Another important thing in the management of these cases is the duration of the period in which the patient should wear the cast. It has been our experience that no cast applied to such injuries should be wholly removed in less than eight or ten weeks. Before the cast is removed the healing process should be checked with x-ray, and in the event of failure of complete healing more time should be given before the cast is removed.

The commonest condition in our experience in which the rami as well as the sacro-iliac joints have been fractured is that in which there is widening of the anterior-superior spines of the ilium or an outward displacement of the entire pelvic structures. In the past, much has been said and many devices have been used to attempt a successful result in holding these parts together. Even now there are advocates of the use of the suspended swathe or hammock. Some authors go to great length to impress upon us the value of the overhead frame by which the patient is suspended in the hammock so that his weight is not permitted to rest upon the mattress. The weight in the hammock, they say, tends to force the fragments together, and if the weight rests upon the mattress they will separate again. Also, we are warned that care must be exercised not to allow the hammock to make too much pressure upon the wings of the ilium or against the greater trochanters, because its inward pressure may cause overlapping of the rami and have a tendency to open up the fracture lines of the iliosacral joints. They suggest that spreaders be placed in the hammock with great skill to overcome these undesired effects.

Now, if there is anything in this presentation that is different from what you are all more or less familiar with, it is our method of treating and reducing this type of fracture. It is simple and much less trouble than reduction by the hammock method, and its results are quite as good. I wish to call your especial attention to the simplicity of this procedure.

A few years ago we treated a fracture of the pelvis in which the pelvis was widened out and there was quite a large space between the fragments. We were in the process of reducing the

fracture by the recognized method of suspension of the patient in the hammock supported by an overhead Balkan frame which was constructed over a fracture bed. That bed was an old-time Zimmer fracture bed with strong canvas straps to support the patient when the mattress was dropped down in order to use the bedpan. I am sure you have all seen these straps. They are about four feet long and four inches wide, with a strong oblong metal loop on one end. Dr. C. A. Miller, who has been a Southern Railway surgeon for many years, was on the case, and after having studied the x-ray and noted the extensive separation, he suggested that we throw one of these straps around the pelvis, run the end of the strap through the metal loop, and draw the parts together as a cowboy would throw his noose or lariat around a broncho's neck and choke him down. The idea looked good as well as mechanically sound, so we tried it, and to our amazement, the reduction was made so complete and with such ease and simplicity that we were astounded. A cast was then applied tightly over the body, pelvis and thighs to the knees, in which the patient remained for ten weeks. He made an uneventful recovery. Since that time we have not used a hammock. In the first place, with a cast you can cut out ample room over the sacrum to allow free use of the bedpan, and thereby keep the patient clean. This you cannot do if the hammock is used, and if it extends down over the trochanters far enough to be effective. We have found that it may be necessary to leave the draw strap on the patient until the cast is applied. Most fractures will remain reduced after the fragments are drawn together, and the strap can be removed before applying the cast. But in those cases where the pelvis seems determined to flare out again after the strap has been removed, the strap should be reapplied and left on until the cast is applied, and then removed. We have found also that it is more easily removed after the cast has been applied if the eye or loop of the strap is made to lie immediately over the pubic bone, as this part of the cast is cut away, as well as the posterior portion of the cast over the lower sacrum region, for purposes of cleanliness. We have found also that if the metal loop is made of aluminum it does not interfere greatly by shadowing the fracture line when attempts are made to check the results by x-ray.

These patients should remain in the cast from eight to twelve weeks, depending, of course, upon their age, the amount of soft tissue damage and the complications. They should be turned over on the face twice daily. After all, the problem of handling fractures is a problem of mechanics, and unless the surgeon has some idea of mechanics he will have difficulty with fractures regardless of their type.

Let me say again that all major pelvic fractures are strictly hospital cases, and that they should all be reduced under profound anesthesia, reduced on a good type of fracture table, put in a cast before removal from the table, and that the patient should be placed for recovery upon some good type of fracture bed with overhead frame, to which is suspended a trapeze that can be used by the patient to pull himself up in shifting or changing his position and assisting the nurse in caring for him. Patients so treated can more easily be cared for than by any other method; they can be kept clean and made quite comfortable, and by this technic good results only should be obtained.

DISCUSSION (*Abstract*)

Dr. Duncan Eve, Nashville, Tenn.—The first consideration in the treatment of a patient with a fracture of the pelvis is the determination of the presence or absence of shock. The next consideration should be in regard to injury to the urinary tract, which occurs in about 10 per cent of the cases. Therefore, when a patient is first admitted to the hospital, the diagnosis of the complication is more important than the diagnosis of the fracture.

I cannot agree with Dr. Brazelton as to the advisability of a general anesthetic and the use of a plaster cast. With this method, the patient is more prone to chest complications, and the cast will increase the deformity of the fragments.

I believe extensive fractures of the pelvis should have some form of continuous traction. The patient is more comfortable if a fracture board is placed under the mattress to prevent sagging. In fractures with moderate displacement, we generally use the following method: both limbs are abducted about thirty degrees and Buck's extension is placed on each limb, using six to eight pounds for each, and the foot of the bed is elevated for counterextension. In fractures with marked displacement of the fragments, we use the same treatment, with the addition of overhead suspension.

Dr. F. Walter Carruthers, Little Rock, Ark.—I hesitate to discuss a paper when I cannot agree with the essayist.

For the last five years I have been profoundly interested in fracture of the pelvis. I have now a series of almost fifty cases.

I think it is criminal to give a patient with a fracture of the pelvis a profound anesthetic. He does not need it and the surgeon does not need it. I can reduce the average fracture of the pelvis in about seven minutes' time, and I can maintain it. I have checked any number of them afterward and they stay in position.

It is not necessary to put a plaster cast around the pelvis, either. I believe I mentioned that a while ago

in my discussion of fractures of the humerus, where an arm splint is hung in the same way.

There was described in the literature some six years ago a method by the use of turnbuckles, little 25-cent turnbuckles. With three of those and a plaster cast extending from the groin down, including the foot, one can reduce a fracture of the pelvis without anesthesia.

In fracture of the pelvis with dislocation of the sacro-ilium, and the bone broken all to pieces, one has to get not only a spreading effect, but a traction, too. How is this to be done?

My method has been an improvement in the use of the turnbuckle with a Roger-Anderson well leg splint incorporated in the cast. I pull down the pelvis on the broken side where there is a broken-out posterior wall and incorporate the turnbuckle and spread them out, and the fracture falls into place. The cast is not around the pelvis, either. It is not needed there.

I sent such a patient home last Friday. He is quite comfortable, he does not need to be in the hospital, and the fracture will stay in position. I cannot give you all the details, but the case report will be published soon.

Dr. August Knoefel, Terre Haute, Ind.—I believe in our medical society, especially in the orthopedic and bone section, we have a couple of fifth columnists in Albert Key and Walter Carruthers.

Incidentally, I have heard Dr. Carruthers give this same discussion and Albert Key also, so it is universal. I have had the pleasure of seeing the original x-rays and follow-up cases of Dr. Carruthers in the work in which he uses the turnbuckles. In the cases that I saw the results were very happy. I do not know whether he showed them all.

The question of fracture of the pelvis is a serious one. They say that fractures of the pelvis, if they escape the first forty-eight hours, usually get on pretty well, but it takes the exception to prove that the rule is not always the same.

Just the day before yesterday I was present at an autopsy of a man 60 years of age who received what we call simple fractures of the two pubic bones: in other words, the rami on each side of the center.

The man with the injury actually walked to the office of the company he worked for and then was taken to the hospital. The physician at the hospital treated him with nothing but a sling, and the man was very comfortable. He had no complaints, no urinary disturbances.

On the tenth day he had his breakfast at 9:00 o'clock and was in good humor as usual. At 10:00 o'clock he let out a gasp and died. Autopsy revealed a large thrombus in the bifurcation of the pulmonary arteries. A search in the abdomen revealed a rather large hemorrhage along the right psoas.

It is cases such as this which put the fear of God, or should, at least, in our hearts when we say that anything is simple.

Do not misunderstand my attitude about Dr. Carruthers. The cases I saw were an education to me. But I do not see why anybody should send a man home in ten days or two weeks with a fracture of the pelvis. I am against it.

I am just wondering who is right. Dr. Brazelton gets good results and Dr. Carruthers gets good results. Mine are indifferent, but some other men get good results also, and just what our conclusion will be I do not know.

The only thing I should like to add in the matter of emphasis upon treatment is traction, because, after all, one begins with the major muscles of the body when he deals with fracture of the pelvis. He has not only the muscles of the torso, but also the muscles of the thigh, all counteracting, and things are going awry unless traction is used. It is my observation that even though I put plaster to the ends of the toenails, I will not have complete traction.

Dr. H. Earle Conwell, Birmingham, Ala.—There is probably no fracture in which a general surgical knowledge of the patient's condition is more necessary than in the pelvic fracture. I am sure that Dr. Brazelton did not want to leave you with the impression that the treatment of such fractures is entirely a mechanical problem.

For the last twenty years I have seen or observed about three hundred fractures of the pelvis and in looking back over this series it has been my experience that most of the pelvic fractures which are not severely complicated can be treated by rest in bed with pelvic support or in the more severely injured with suspension of the pelvis and extension to the lower extremities. In very few cases have open reduction or complicated mechanical devices been necessary, certainly in not over 5 per cent of the cases of my series. By using the overhead frame, hammock, suspension and traction to the legs, the patient is made more comfortable and in those cases where there is a unilateral displacement of the fragments it is very easy to apply more weight on the one or the other leg as necessity demands in order to pull the fragments in place.

As a matter of fact, we must treat the patient first and not the fracture; second, we must not subject the patient to too much surgery to bring about perfect anatomical position when this position is not always necessary for perfect function. As a matter of fact, some of the cases with perfect positions following fractures of the pelvis have more complaint in the sacro-iliac than some cases with only fair position of the fragments. This is true especially in the compensation cases.

Dr. Brazelton (closing).—I am afraid that some of the gentlemen have misunderstood my intent. In the first place, I have not treated three hundred cases of fracture of the pelvis, neither have I written books on the subject. I am not a specialist; I am not an authority, and neither do I attempt to tell you in an authoritative way how to treat fractures of the pelvis. I am only giving you an idea that we have used in many cases which did give good results.

I do not mean to say that we have treated all our cases with a complete cast. As a matter of fact, we have employed the Roger-Anderson well leg splint. We have used it with good results. We have also used the turnbuckle without getting a bit of the cast over the pelvis. We have done that with good results also. While all physicians have plaster cast material available, not all have turnbuckles or Roger-Anderson equipment.

The point I did not, possibly, emphasize so much as I should have, was the fact that the first consideration in all pelvic injuries with fracture of the pelvis is to take care of the patient's general condition first, because many of these patients are in shock.

I should like to back up a little on the profound anesthesia proposition. I do not mean that to the extent of anesthetic shock, but I say "complete anesthesia," because I have seen cases (though possibly my experience is not wide enough) in which manipulation in attempting to reduce the fractures produced more or less shock, and I had to quit the reduction until the patient had improved.

The cases, of course, were usually those in which severe soft tissue damage had occurred, but there is no one way, I think (and again I am not speaking with authority) in which we can treat all fractures of the pelvis and get the same end result. It cannot be done.

I was misunderstood when I said that unless one has an understanding of me.hanics he will have trouble with all fractures. I was not confining that wholly to pelvic fractures; I am making a general statement. Fracture work is a problem of mechanics.

THE TREATMENT OF UTERINE PROLAPSE*

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In the writings attributed to Hippocrates[1] in the Fourth Century B.C. may be found an excellent description of complete uterine prolapsus, in which he advises washing the parts with black wine followed by manual reposition and seven days' rest in bed with the feet elevated. No mention is made, however, of the end results of this procedure.

Soranus,[2] of Ephesus, of the Second Century A.D., is our leading authority on the obstetrics and gynecology of the ancients. Even in that day perineal bandages and pessaries were looked upon as time-honored methods of treatment. Soranus chides Euphyron for suspending his patients by the feet to a ladder for a period of 24 hours, and scores those who believed that the prolapsed uterus would retreat to its natural position if exposed to evil-smelling medicaments. He advocated manual replacement, binding the legs together, and, after several days' rest, use of a pessary of wood dipped in myrrh.

Little, if any, progress was made in the treatment of uterine prolapse during the middle ages, or in the Renaissance, for we find that during this time Rodericus a Castro[3] attacked the procidentia with a red hot iron to cause it to retreat into the vagina, while others bound lizards and mice to the uterus to frighten it into normal position. Paré[4] advised the use of a pessary consisting of a ball covered with leather, but makes no mention of surgery for the correction of the condition.

In 1702, Stephen Blancard[5] mentioned surgical attack on prolapsus in his definition of "Procidentia Uteri" in *The Physical Dictionary:*

"A relaxing of the Inner Tunick of the Womb, which falls through the Privities and was cut off by Physicians."

The first suggestion of a rational surgical approach to treatment of prolapsus is attributed to the French surgeon, Romaine Gerardin,[6] who, in 1823, proposed obliteration of the vaginal orifice by suture of the denuded labia. He did not, however, perform the operation. Eight years later (1831) Dr. Marshal Hall,[7] of London, proposed a rectangular denudation of the anterior vaginal wall followed by side-to-side suture of the denuded area in such a manner that the prolapsed uterus would be supported by the narrowed vagina. Mr. Heming[8] followed Hall's suggestion and performed the operation with success in 1831.

Shortly thereafter, Geddings[9] is credited with first combining perineorrhaphy with narrowing of the vaginal walls. Judging from the description of these early operations and from the accompanying illustrations, the operators depended almost entirely upon suture of the mucosa and skin. The deeper supportive structures were not repaired, and, in most instances, the operation served only to narrow the vaginal orifice, so that a ring pessary could be utilized. Important contributions were made to vaginal plastic surgery by Diffenbach, Velpeau, Marion Sims, Emmet and others during the middle of the Nineteenth Century. In 1877 Leon LeFort[10] advocated partial occlusion of the vagina by suturing together the denuded anterior and posterior vaginal walls. Almost simultaneously Neugebauer,[11] in Germany, devised much the same operation, which, with little modification, we now find useful in a definite but small group of cases.

In 1888, Donald,[12] of Manchester, England, then Senior Resident Surgeon in St. Mary's Hospital, devised the combination of anterior and posterior colporrhaphy with amputation of the cervix, and called particular attention to the necessity of suture of the bases of the broad ligaments anterior to the cervix. This procedure was later modified by Fothergill[13] and more recently by Fletcher Shaw,[14] but with little change, the Manchester operation constitutes today the most effective treatment of the majority of cases of uterine prolapse.

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*Read in Section on Gynecology, Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, Kentucky, November 12-15, 1940.

In the choice of treatment for uterine prolapse, patients must be individualized by careful consideration of many pertinent factors. Age, general condition of the patient, degree of prolapse, sexual life, the desire for additional children and other associated pelvic disorders constitute the chief points on which the decision must be based.

In most instances, surgical repair of the torn or attenuated supportive structures constitutes the procedure of choice. On the other hand, since procidentia occurs more often in elderly women, a considerable number are poor operative risks. For the treatment of this group, some form of mechanical support must be used. Conservative treatment is indicated also in younger women with partial prolapse, who desire to postpone extensive repairs until additional children are borne; similar measures are applicable to the occasional cases of prolapse which occur during pregnancy.

Circular hard rubber pessaries are preferable to the soft or sponge rubber type, as the latter, being rough, readily become encrusted with secretion, are foul in odor, and are more irritating to the vaginal wall. The caliber of the hard rubber pessary should be as small as will maintain the uterus and the associated cystocele in proper position. Ring pessaries of the same caliber rubber as the usual Smith pessary accumulate less encrusted mucus and permit better drainage than those made of larger caliber material. The ring pessary should be large enough in diameter to fill the relaxed vagina and rest comfortably against the pubic rami without making undue pressure on the lateral vaginal walls or the urethra. Occasionally the vaginal orifice is too small to allow the insertion of a ring large enough to support the uterus; in such cases the collapsible soft rubber pessary must be used despite its disadvantages.

Tampons are useful in maintaining the completely prolapsed structures in position while treating decubitus ulceration of the cervix in preparation for operation. In rare instances, tamponage may prove to be the only method applicable to an elderly patient whose pelvic floor is too relaxed to hold a pessary in place; continued use of tampons, however, has the disadvantage of macerating the atrophic vaginal epithelium.

The cup-pessary with its attached stem and harness is rarely justifiable. With this device in place, the entire weight of the uterus rests on the cervix, and decubitus ulceration is almost inevitable. Some few patients, who cannot be subjected to operative repair, and who, for various reasons, cannot be fitted with any mechanical support, find considerable relief from the use of a vulvar pad with a tightly applied perineal binder.

SURGICAL TREATMENT

Every experienced gynecologist has his favorite operative methods for correction of uterine prolapse. No one method is suited to all cases, but certain principles are common to all successful operations. The chief cause of prolapse is, unquestionably, over-stretching or tearing of the fibromuscular supportive tissue in the bases of the broad ligaments. Therefore, any procedure which does not include shortening of these structures is doomed to failure. In addition, the almost invariably associated cystocele and rectocele must be repaired, and attention must be given to the frequently associated enterocele.

MANCHESTER OPERATION

This procedure consists of amputation of the cervix, shortening of the bases of the broad ligaments, and anterior and posterior colporrhaphy. The details of the technic of this operation have been so well presented by Mr. Fletcher Shaw, of Manchester, and more recently by Frank, Gordon, and Curtis in this country, that there seems no necessity to do so in this presentation. The order in which this combination of procedures has proven most effective and, in our hands, easiest to perform, is as follows: elevation and suture of the bladder high on the anterior face of the uterus, amputation of the cervix, covering the posterior lip of the cervix with Sturmdorf's stitch, cutting away the excess vaginal mucosa, placing but not tying the broad ligament sutures anterior to the cervix, completion of the cervical covering, closure of the anterior colporrhaphy from the urethral end, and finally tying the sutures previously placed through the bases of the broad ligaments. We have found that tying these chief supportive sutures earlier in the operation often elevates the cervix to such a degree that the remainder of the anterior closure is rendered extremely tedious. Posterior colporrhaphy completes the operation. This is the least radical of all the major surgical measures and is, therefore, best suited to the young woman who desires to have additional children. Shaw found in his follow-up study that labors subsequent to this operation were well tolerated; in only 18.5 per cent was there any recurrence of symptoms. Another advantage is that vaginal depth is more regularly conserved in this proce-

dure than in the more radical measures. The Manchester operation is my choice also for partial prolapse in older women, if there be no special indication for hysterectomy. The shortening of the bases of the broad ligaments may be accomplished with or without detaching them from the sides of the cervix. If the cervical amputation is high, I prefer to detach them and bring them together anterior to the cervix; if the amputation is low, simply overlapping the unsevered ligaments anteriorly serves the same purpose and gives a less "bunchy" anterior cervical lip.

THE INTERPOSITION OPERATION

This procedure was devised in 1898 almost simultaneously by Dr. Thomas Watkins[15] and by Wertheim.[16] It consists of longitudinal incision of the anterior vaginal wall in the plane between the bladder and the vesicovaginal layer of the endopelvic fascia, elevation of the prolapsed bladder beyond the line of the peritoneal reflection, incision of the peritoneum of the anterior *cul-de-sac,* extraction of the fundus of the uterus through this opening, suture of the top of the fundus to the fascia just under the pubic rami, and closure of the anterior vaginal wall so that the base of the bladder rests on the posterior surface of the uterus. Posterior colporrhaphy completes the operation.

Because of the distorted relations of the uterus and the bladder, childbirth after this procedure is hazardous, if, indeed, it is possible. The operation should, therefore, be utilized only after the menopause or artificial sterilization. Its field of greatest usefulness is in elderly women with cystocele and only partial prolapsus. We do not use this procedure in any case in which the cervix protrudes more than one inch beyond the vaginal orifice. The operation in our hands is poorly adapted to the correction of complete prolapse because the relaxed uterosacral ligaments in these cases fail to maintain posterior traction on the cervix. Unless the cervix is held well back in the pelvis, recurrence of the procidentia not infrequently occurs. Care should be exercised that the fundus be sutured firmly enough under the pubic rami to fill the hernial orifice through which the cystocele pushed its way.

The interposition operation is not used in our clinic in young women who are sexually active, because of the high incidence of postoperative dyspareunia.

VAGINAL HYSTERECTOMY

Removal of the uterus is not practiced in our clinic in cases of partial prolapsus unless there be some indication for hysterectomy other than malposition of the uterus. The uterus is the keystone of the upper pelvic arch, and its removal renders shortening of the broad ligaments more difficult. Vaginal hysterectomy is, therefore, rarely utilized except in occasional cases of complete prolapse in elderly women.

A brief outline of our procedure is as follows: transverse incision of the vaginal wall just anterior to the cervix; blunt dissection of the bladder from the vaginal wall; longitudinal incision of the anterior vaginal wall from the cervix to a point near the external urinary meatus; elevation of the bladder above the point of peritoneal reflection; completion of circular incision of vaginal mucosa posterior *cul-de-sac;* clamping and ligation of both uterosacral ligaments and the lower third of both broad ligaments; severing these ligaments from the uterus; incision of the anterior *cul-de-sac,* with the finger in the peritoneal cavity as a guide; delivery of the fundus through the anterior peritoneal opening; ligation of the upper thirds of both broad ligaments; excision of the uterus; purse string closure of the peritoneal cavity; uniting the severed broad ligaments in the midline; anchoring the united upper ends of the broad ligaments to the fascia under the pubic rami (Mayo technic), just as the uterus is anchored in the interposition operation; attaching the vaginal vault to the united bases of the broad ligaments; anterior and posterior colporrhaphy.

Attention should be directed to the possibility of an associated enterocele, and, if present, the hernial sac must be obliterated or removed. In performing the anterior colporrhaphy on those patients who are incontinent of urine, two or three mattress sutures are taken in the fascia underlying the internal urinary meatus. These sutures should be firm, but should not unduly constrict the urethra; tight constriction often delays the return of normal sphincteric action and prolongs the necessity of catheterization.

We have had no experience with vaginal hysterectomy by the clamp method. This procedure is advocated by many as a rapid operation for complete prolapse, which is well tolerated by elderly patients and others, who, for various reasons, are poor operative risks. The operation consists in principle of circular incision of the cervix, elevation of the bladder, incision of the peritoneum of the anterior *cul-de-sac,* incision

of the posterior *cul-de-sac*, delivery of the uterus anteriorly, application of large special clamps to the medial ends of the broad ligaments, excision of the uterus, and finally, firm packing of the vagina. The clamps are removed from forty-eight to seventy-two hours later. According to those who have used this procedure, postoperative bleeding is rare and the results are quite satisfactory.

PARTIAL COLPOCLEISIS

Partial closure of the vagina by LeFort's operation is the simplest of all the surgical procedures for the correction of complete prolapse. Since, on completion of the operation, the vagina is practically closed, it is limited in its applicability to those patients whose sexual life is of no importance. It is easily performed under local anesthesia; little, if any shock attends the procedure, postoperative complications are rare, and the final results, in the limited number of patients to whom we have found the operation suited, have been eminently satisfactory.

After excluding, by curettage, the possible presence of fundal malignancy, the first step of the operation is a rectangular denudation of the anterior vaginal wall. The denuded area should not be more than 4 cm. wide, and should extend from a point just below the cervix almost to the urethral orifice. A similar denudation of the posterior wall is followed by a suture of the edges of these identical rectangles, beginning just below the cervix and proceeding toward the introitus. The sutures are placed in pairs, one on each side, so that, as the operation proceeds, the cervix disappears and the prolapsed uterus gradually returns to its normal level. Firm perineorrhaphy is essential for proper support. On completion of the operation, a narrow channel extends upward from each side of the vaginal orifice and these are continuous with the transverse channel just below the cervix. This channel must be of sufficient caliber to provide adequate drainage of cervical and uterine secretions.

The foregoing constitutes our general ideas of the indications for the various operative procedures for the treatment of prolapsus. A brief analysis of fifty consecutive personal cases might be of value in indicating the relative frequency of utilization of the various methods. These, rather than service cases, were chosen because they obviously represent more accurately my own ideas of the subject. The group consists of twenty-four cases in which the cervix presented at the vaginal orifice and twenty-six in which a part or all of the uterus protruded beyond the introitus. Lesser degrees of descensus have not been considered in this summary.

The Manchester operation was done in 29 cases, in only one of which was suspension of the uterus considered necessary. Abdominal section was performed on two other patients in this group, one for removal of a large myomatous uterus and the other for removal of an ovarian cyst. The results were entirely satisfactory in all but two cases in which partial incontinence of urine has persisted. Failure to relieve this symptom in one of these is probably attributable to the necessity of repeated vaginal packing for the control of secondary hemorrhage on the twelfth postoperative day. This patient has also a small recurrence of cystocele, due, no doubt, to the same cause. There were no deaths in this group; only one patient was seriously morbid, as the result of a postoperative pelvic abscess which drained spontaneously without jeopardizing the end result.

Vaginal hysterectomy was done in eight cases. In three of these, functional uterine bleeding constituted the indication for removal of the uterus and in one an associated carcinoma of the fundus was similarly treated. The other four hysterectomies were performed electively on elderly patients with complete prolapsus. One patient in this group has not been followed, and sufficient time has not elapsed to evaluate the result in another, but there has been no recurrence in the other six.

The interposition operation was used in six cases in which the cervix did not protrude beyond the vaginal orifice. The results in this small group have been entirely satisfactory.

Partial colpoclesis under local anesthesia, by the LeFort technic, was utilized in seven elderly widows, whose age and general condition contraindicated a longer and more anatomic surgical procedure. One patient in this group died suddenly while walking in the ward on the seventeenth postoperative day, apparently of cardiac dilatation. The other six patients have been completely relieved, although in one there is a small recurrent urethrocele, due to failure of primary union of the anterior portion of the denuded rectangles.

In closing this brief discussion of the treatment of uterine prolapse, I should like to reiterate

that no one method can apply to all cases, and that proper choice of treatment for any patient can be made only after careful evalution of many factors.

BIBLIOGRAPHY

1. Hippocrates: Oeuvres completes d'Hippocrate, Traduction Nouvelle par E. Littre. Paris: J. B. Baillière, **7**:317, 1861.
2. Soranus of Ephesus: cited by F. Winckel. A Handbook of Diseases of Women. Parvin's Translation, p. 251. Philadelphia: P. Blakiston, Son & Co., 1889.
3. Rodericus a Castro: cited by Matthew D. Mann. A System of Gynecology, **2**:1135. Philadelphia: Lea Brothers & Co., 1888.
4. Pare, Ambroise: Deux Livre de Chirurgie, p. 214. Paris: Chez Andre Wechel, 1573.
5. Blancard, Stephen: The Physical Dictionary, p. 251. London: Sam Crouch, 1702.
6. Gerardin, Romaine: Archives generales de medicine, 3 me annee Tome 8, **8**:132. Paris: 1825.
7. Hall, Marshal: London Med., **9**-E, p. 269, 1831.
8. Heming, G. O.: London Med., **17**:266, 1835.
9. Geddings: cited by Savage. Lancet, **1**:164-166, 1858.
10. LeFort, Leon: Ann. de Gynec et d'obst., **7**:299-306, 1877. LeFort, Leon: Bull. gen. de therap., **92**:337-344, 1877.
11. Neugebauer: 2 bl. f. gyn., No. 1 S3, No. 2 S25, 1881.
12. Donald, A.: Jour. Obst. & Gyn. Brit. Emp., **28**:256-259, 1921.
13. Fothergill, W. E.: Jour. Obst. & Gyn. Brit. Emp., **28**:251-255, 1921.
14. Shaw, W. Fletcher: Amer. Jour. Obst. & Gyn., **26**:667-686, 1933.
15. Watkins, T. J.: Amer. Gyn. & Obst. Jour., **15**:420-423, 1899.
16. Wertheim, E.: Zentralbl. f. Gynak., **23**: No. 14, pp. 369-372, 1899.

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THE TREATMENT OF MALIGNANT TUMORS OF THE ADULT KIDNEY*

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When one surveys the extensive literature that has accumulated on the subject of malignant tumors of the adult kidney there seems to be no good reason at this time for an additional report such as the one here presented. The main forum for discussion of renal tumors has been, and still is, the pathologic laboratory where the cellular origin of these tumors remains a disputed question.

In 1909, Edgar Garceau, of Boston, published a book on "Tumors of the Kidney." The personal study which formed the major material for this contribution was based upon an experience with

"33 hypernephromata of large size and of distinctly malignant type, 3 carcinomata, 2 sarcomata, and 4 malignant papillary adenomata."

This volume contains 404 pages and was considered a classic on the subject at that time.

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When one considers the recent, rather brief, but all inclusive paper by Priestley reviewing the records of 642 cases in which operation was performed for malignant tumors at the Mayo Clinic in the years 1910 to 1936, and realizes that this is but one source of many from which we have been able to compile a large material for study, a comparison with Garceau's experience makes it seem small indeed. One has only to reread Garceau's book, however, to realize that there has been little or no progress in the application of surgical principles in the treatment of renal tumors in the past 30 years. Despite the fact that advances in the precision of diagnosis, especially aided by ureteral catheterization, renal function tests, retrograde and excretion pyelography have enabled an earlier recognition of the lesion, the prognosis remains largely the same as recorded by Garceau. Due to improved anesthesia and more satisfactory surgical technic, the operative mortality has been greatly decreased, but the long range outlook has improved in a disappointingly small percentage.

Davis, in 1938, said:

"Almost all new growths of the kidney are malignant. Early diagnosis and nephrectomy, before metastasis occurs, are necessary for a cure. In practice this fulfillment is the exception."

Garceau, in 1909, said:

"The operative treatment of malignant disease of the kidney offers but little encouragement. Nevertheless, the symptoms are usually so severe that operation is in most cases imperative. Unbearable pain demands operation, and so also does exhausting hematuria. One can never be absolutely sure of the exact nature of the disease, and in spite of the discouraging outlook an operation may be advisable."

OPERATIVE MORTALITY

Quoted figures vary from 4 to 33 per cent according to Davis; older figures, such as Binney, 34 per cent; and Albarran and Imbert, 26 to 28 per cent. McKenzie states that the operative mortality in general varies from 10 to 35 per cent. His personal mortality is given at 12.5 per cent. Hymen gives his mortality as 11 per cent; Swan as 19 per cent. Hand and Broders earlier quoted an operative mortality of 11.9 per cent at the Mayo Clinic, while Priestley, in 1939, from the same clinic notes that the immediate operative mortality has been gradually reduced. In 568 nephrectomies between 1910 and 1936 the figure was 7.5 per cent. For the ten years prior to 1936 the mortality was 5.3 per cent (263 cases), for the five years prior to 1936 the mortality was 3.1 per cent (127

cases) and for the three years prior to 1936 the mortality was 1.2 per cent (85 cases).

By and large there has undoubtedly been a reduction in the immediate operative mortality in nephrectomy for malignant renal tumors of from 15 to 20 per cent in the past 25 years. Aside from the improvement in the results of complete nephro-ureterectomy for papillary tumors of the renal pelvis, this decrease constitutes our main cause for optimism in the treatment of renal tumors.

As is well known, malignant disease of the kidney is disseminated in two ways: by extension to contiguous structures and by metastases. Early invasion of the renal vein with subsequent thrombus metastases to distant parts of the body constitutes the main difficulty in improving the survival rate in patients with hypernephroma (adenocarcinoma). Contiguous invasion of the ureter and bladder in papillary tumors of the renal pelvis has been well recognized and very encouraging end results are now apparent when complete nephro-ureterectomy is performed in every case of this kind. In the non-papillary solid, or squamous-celled variety of renal tumor no progress has been made. The high grade of malignancy present, the lack of early symptoms preventing early diagnosis and nephrectomy, combine to make the outlook in this type of tumor hopeless as to ultimate cure.

The literature, as well as the experience of every urologist, is complete with the interesting but unfortunate varieties of metastases in the hypernephroid group of tumors.

No structure of the body is free from the danger of metastasis. While the most common sites are the lungs and retroperitoneal lymph nodes, the liver, pleura, peritoneum, spleen, heart, adrenal, inguinal nodes, bones, such as ribs, spine, cranium and nasal bones, are frequently involved. Not infrequently the growth recurs in the scar of the nephrectomy wound even after a period of many years.

RADIATION THERAPY IN TREATMENT OF RENAL TUMORS

In 1935, American urologists were given a new hope that radiation therapy as a preoperative measure might improve the survival rate in the management of malignant cortical renal tumors. The work of Waters, of Baltimore, on this subject has not been substantiated during the past five years. Davis, in 1939, said:

"Intensive roentgen therapy has produced no cure in tumor of the adult kidney, but is often useful in reducing the size of a tumor preliminary to operation."

Priestley, in 1939, said:

"The exact indications for, and the value of, roentgen therapy in the management of renal tumors in general remain undetermined. Analysis of the cases of adenocarcinoma in which roentgen therapy was not used and those cases in which 'inadequate' or 'adequate' roentgen therapy was used failed to disclose a higher survival rate for those who received irradiation. This is equally true whether all cases are considered in a single group or whether they are tabulated according to the grade of tumor that was present."

These statements do not apply to the treatment of Wilms' tumors in infancy and childhood. This group is not included in the scope of this discussion. Current opinion is most uniform in its agreement on the value of irradiation in the treatment of Wilms' tumor. In reply to a recent request on my part, Dr. Archie L. Dean, of the Memorial Hospital in New York City, has been kind enough to give me his present personal opinion. I quote his letter:

"We never prescribe preoperative irradiation treatment for pelvic tumors, and would give postoperative treatment only if obvious tumor tissue remained behind after operation. Postoperative irradiation in such cases as yet has not demonstrated its value. Regarding the treatment of adenocarcinomata in adults, I would say that we give preoperative irradiation. The idea behind this is to obtain information regarding its value. After the irradiated tumor has been removed, postoperative irradiation has not been given except where all of the growth could not be removed, and this in our hands is quite rare, although we get many cases from other sources with recurrences. Regarding results of radiation as against nephrectomy alone, there is no recent comparison, but in my opinion study of kidney after irradiation shows that preoperative irradiation is of little, if any value in a curative sense. Practically all of the effect of preoperative irradiation is on the delicate blood vessels of the tumor.

"The effect of this treatment is to destroy the integrity of the vessel walls, after which infarcts are produced. Within the infarcted areas there is complete devitalization of all tumor cells, but immediately outside of the infarcts, apparently unaffected cancer continues to grow; in other words, the effect of preoperative irradiation on an adenocarcinoma of an adult kidney is the same as an incomplete operation. Furthermore, it is difficult to judge the powers of external irradiation in producing infarcts, because infarcts occur spontaneously in untreated renal tumors, and there is no difference observed under the microscope between spontaneous infarcts and those brought about by irradiation. At present I employ preoperative irradiation in most of the clinic cases and in some of the private patients; but as I said before, we use it with the idea of learning its value, rather than because its value has been proved, and we use it confidently as an important type of therapy. As I said before, I feel that the procedure offers no improvement in end results. Preoperative radiation does reduce the size of the great majority of renal adeno-

carcinomas. This reduction may greatly facilitate the subsequent operation. The size may be reduced as much as 40 to 50 per cent in some cases. On the other hand, I want you distinctly to understand that, in my opinion, preoperative irradiation will not make an inoperable tumor operable. I do not consider a tumor inoperable because of large size alone, for although it may be inoperable to some surgeons, a more clever operator might well succeed in removing it. However, when the tumor has penetrated the renal capsule and the perirenal tissues have been infiltrated, fulfilling my idea of an inoperable tumor, then in these cases, preoperative irradiation cannot result in producing an operable condition. Your own discouragement with irradiation is quite reasonable, and I think it fair to say that preoperative irradiation has as yet been unable to demonstrate advantages in terms of improved survival statistics."

PROGNOSIS AND SURVIVAL RATE

The following table is taken from Garceau (1909)

Survival	No. of Cases
1 year or under	9
1 to 2 years	6
2 to 3 years	7
3 to 4 years	2
4 to 5 years	3
5 to 6 years	2
6 to 7 years	1
9 to 10 years	1
Total	31

Compared with the recent tabulation of Priestley (1939)

Adenocarcinoma 395

392 traced for 3 years, 187, or 47.7 per cent, alive.
357 of 362 traced for 5 years, 137, or 38.4 per cent, alive.
253 of 257 traced for 10 years, 69, or 27.3 per cent, alive for 10 years or more.

Renal Pelvis Tumors ("Epitheliomata") 47

47 (all) traced, 21, or 44.7 per cent, alive for 3 years
40 (all) traced, 14, or 35.0 per cent, alive for 5 years
19 (all) traced, 2, or 10.5 per cent, alive for 10 years

Priestley gives figures supposedly proving that the cellular grade of malignancy and the size of the kidney at time of removal bear a definite significance in the length of survival after operation.

In my own small experience, and from comments in the literature, the size of the tumor mass is not in itself of prognostic importance. Regional extension and distant metastases seem to occur just as frequently in smaller gross tumors as in the larger ones. Since about 65 per cent of adult renal tumors are first recognized between 40 and 65 years of age, any study of the survival rate must, of course, take into consideration the death rate of the general population during this age period.

I have not discussed sarcoma of the kidney in the adult because I have never encountered one. Judd and Donald reviewed 570 cases of renal tumor tabulated between the years 1901 to 1932 and found 20 cases of sarcoma. Hymen, in a series compiled of 163 cases, found two sarcomata. Priestley, in 1939, reported 23 instances of renal sarcoma and 4 of these lived three years, 3 for five years, and only one lived ten or more years after operation.

Every report on the subject of squamous-celled carcinoma of the renal pelvis attests to the high degree of malignancy and absolute incurability of this lesion. Both Hunt and Kretschmer, each of whom reported eight cases, found that all of their patients had died of the condition.

A constantly improving survival rate in the cases of papillary carcinoma of the renal pelvis is to be expected in the future due to the recognition of the advisability of doing complete nephro-ureterectomy (including the intramural portion of the ureter) in every instance where this type of tumor is recognized.

My own limited experience with renal tumor has been quite remarkable in that of 34 tumors removed surgically, 10 have been primarily of the renal pelvis. Since nearly all authors on this subject state that primary neoplasms of the renal pelvis comprise only from 5 to 10 per cent of all tumors of the kidney, my experience must be regarded as most unusual. Only 23 of 318 nephrectomies reported by Hunt were for primary tumor of the renal pelvis. Ten of 66 nephrectomies by Thompson-Walker for renal tumor showed the growth primarily in the renal pelvis.

PERSONAL EXPERIENCE WITH ADULT RENAL TUMOR

142 nephrectomies 8 explorations
35 of these for renal tumor
10 primary in renal pelvis
8 papillary carcinoma
2 squamous ("scirrhous," "solid")
25 cortical tumors (adenocarcinoma) "hypernephroma"
34 nephrectomy (6 with complete ureterectomy)
1 lumbar exploratory with biopsy
1 postoperative death, fifth day
Operative mortality, 2.8 per cent

A brief summary of the records of six patients with papillary tumor of the renal pelvis emphasizes a much more hopeful outlook as compared with tumors of the renal cortex.

Case 1.—Mr. A. K., aged 63 years, had an incomplete left nephro-ureterectomy January 25, 1927. The superior calyx only was involved. He remained well until his death from pneumonia on April 21, 1933. Autopsy showed no recurrence or metastasis of the renal tumor after five years and three months.

Case 2.—Mr. E. R., aged 68 years, had an incomplete nephro-ureterectomy for calculous hydronephrosis containing a large papillary carcinoma on April 15, 1927. He died August 18, 1938, with carcinoma of the rectum. There was no evidence of renal tumor recurrence. No autopsy was done. He survived 11 years and 4 months; age 80 at death.

Case 3.—Mrs. S. M., aged 58 years, had a nephro-ureterectomy (but not removal of intramural ureter) for a calculous kidney containing a papillary tumor on October 12, 1928. She remained apparently well for four years and died with a massive tumor in the intramural ureter and pelvis on December 2, 1932. Autopsy showed liver and lung metastases. She survived four years and two months, and died of the primary tumor.

This case illustrates the importance of removing the intramural portion of the ureter and a cuff of bladder wall, as it may be involved with transplantations of the pelvic tumor even when the remainder of the ureter is shown to be uninvolved.

Case 4.—Mr. H. S., aged 44 years, had a papillary tumor of the bladder which was coagulated on July 12, 1936. He had a left nephrectomy for a pelvic tumor August 6, 1936, and a left ureterectomy, cystotomy and coagulation of a bladder tumor August 18, 1936. At present he is apparently free from recurrence. No tumor was found in the excised ureter, but the renal pelvis and bladder tumors were similar histologically. He is living and well after four years and three months.

Case 5.—Mr. J. P., aged 58 years, had a complete nephro-ureterectomy May 6, 1937, for extensive tumor of the renal pelvis. No tumor was found in the ureter or bladder. He is living and apparently well after three years and six months.

Case 6.—Miss A. G., aged 64 years, had multiple papillary tumors in the bladder and left kidney pelvis. She had a complete nephro-ureterectomy January 11, 1935, with coagulation of bladder tumors through cystotomy. Recurrences in the bladder were coagulated repeatedly at intervals for three years. The patient died May 15, 1938, of urosepsis and cachexia. She survived three years, four months, and died of metastasis from the bladder, but was fairly comfortable and earned her own living for three years after operation.

In the small series of 24 patients operated upon for renal cortical tumors in which there was one operative death, only a few interesting facts were developed by careful follow-up study. Fourteen were males and 10 were females. The youngest patient was 37 years old; she is living and well 14 months after operation. Ten patients were in the forties, 8 were in the fifties, 5 were in the sixties, the oldest being 69. Two of these 24 patients can hardly be considered in a survival rate study, other than operative, since only eight months and eleven months, respectively, have elapsed since operation.

Five patients died within the first 12 months.

Eight patients died between two and one-half and three years after operation.

A patient died three years and two months after operation. This was an instructive case. The man was 61 years of age at the first examination, very thin and presented a left renal mass, almost filling the abdomen. The symptoms were those of cachexia and marked gastro-intestinal upset. X-rays of bones and chest were negative for evidences of metastases. I advised against operation. The patient returned one month later, saying that he would rather die than continue as he was. We removed a hypernephroma weighing eight pounds under spinal anesthesia. The patient recovered rapidly, gained 40 pounds in weight and returned to his position as a night watchman. Three years and two months after operation he died of pneumonia of three days' duration. Autopsy was not permitted.

Eight patients are living and apparently well. One was operated upon September 14, 1934, five years and four months ago. One was operated upon November 11, 1935, four years and two months ago, and the most favorable one, a woman, 50 years old at the time of operation on August 27, 1933, is earning her living as a saleswoman, apparently in good health six years and six months later. Five patients have been living and without apparent recurrence for more than three years, but less than four years.

Despite the rather gloomy general prognostic picture for long survival, it is apparent that we are justified in recommending surgery in every patient in whom renal tumor is suspected. Even where an extensive involvement exists operation may be indicated for relief of pain, to stop exsanguination from hemorrhage, to relieve pressure symptoms on stomach and bowel, and most important of all, to verify the fact that the patient actually has a malignant tumor of the kidney and not a more curable lesion.

There are on record many instances of long survival after nephrectomy where localized areas of metastases were successfully removed with a surprisingly long subsequent period without evidence of recurrence elsewhere. Albrecht, in 1905, reported a case in which four years after nephrectomy a bone metastasis in the scapula occurred. The scapula was excised and the patient was living and in good health two years and seven months after this second operation. Barney has recently reported a patient living and in good health in whom an entire lobe of the lung was resected for metastasis five years after nephrectomy. Such reports as these stimulate us to refrain from adopting a defeatist attitude

despite a seemingly hopeless outlook in some cases. Bumpus and others have reported disappearance of symptoms and x-ray evidence of lung metastasis both spontaneously and after irradiation therapy. The patients, if followed long enough, invariably died of recurrence elsewhere. In one patient whom I saw in 1928 with definite evidence of right hypernephroma and extensive metastases in the lower right lung, but who was having no pain or hematuria, I refused nephrectomy because I felt it offered nothing worth-while to the patient. The patient went to a physician, who gave him some intramuscular injections, and a year later another physician, an excellent internist, reported that x-rays of the lung were clear. Members of the patient's family upbraided me for making the wrong diagnosis. The patient died two years and three months after I had first seen him and autopsy showed multiple metastases of hypernephroma in lungs, liver and bones. It is apparent, therefore, that some of these patients may live a long time when the original renal tumor remains more or less in status quo. The first patient I ever saw with a hypernephroma came on my service as an intern under Dr. Cushing with a pulsating tumor of the frontal bone which had been enlarging for three years. During his hospital study he developed his first profuse hematuria and complete urologic examination suggested a right renal tumor afterwards verified at autopsy as a hypernephroma. The mother of one of my friends whom I had directed to a nose and throat specialist because of frequent epistaxis proved to have hypernephroma metastases in nasal bones and lungs, although there had never been renal pain, tumor or hematuria. Autopsy showed a left hypernephroma.

CONCLUSION

At present the treatment of malignant tumors of the adult kidney presents nothing new. Early diagnosis and complete nephrectomy or nephroureterectomy, if papillary and primary in the renal pelvis, is the ideal to follow. The advent of intravenous urography was heralded as a method which would increase materially the per cent of early diagnosis, but in my opinion it has proven a disappointment. It may even diminish this percentage by misleading the general practitioner or radiologist into postponing the sending of a suspected case for complete urological study. Irradiation therapy to date has been a great disappointment and can certainly be considered only in the experimental stage.

In the absence of demonstrable metastasis one cannot always be sure of the diagnosis, since such changes as occur in solitary cyst, carbuncle of the kidney, granulomata of the renal pelvis, aneurysm of the renal artery and aorta, and retroperitoneal tumors may give a diagnostic picture suggestive of local neoplasm.

Operative intervention at times in even seemingly hopeless cases may restore the patient to apparent health and to continued employment for several years.

55 East Washington Street

THE SURGICAL TREATMENT OF LYMPHOGRANULOMATOUS STRICTURES OF THE RECTUM*

REPORT OF 24 CASES

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To us in the Americas, the admission to our knowledge of lymphogranuloma venereum a decade ago was received with an unusual degree of enthusiasm, yet over the period of ensuing years, while continued interest is displayed, the treatment has been relegated to a reactionary phase characterized by discouragement. While it is timely that we consider the serious import of this disease entity, and become cognizant of its varied manifestations, of its ubiquity and the role of responsibility to be assumed by the respective states, it is our purpose only to consider a series of 24 cases that have been treated by radical extirpation.

During the eight-year period ending January 1, 1940, we observed in the city of Philadelphia largely at the Graduate, General and Temple University Hospitals, 852 cases of lymphogranuloma venereum. Of this number the large majority were observed in the periods of greatest sexual activity, namely, 14 to 39, with the extremes of 5 days and 89 years. The incidence of sex, age and race are shown as follows:

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Table 1

Age	
Below 14	9
14-29	301
30-39	368
40-49	98
50-59	51
60-69	17
70-79	5
80-89	3
Total	852

Table 2

Race	
Colored	559
White	292
Chinese	1
Total	852
Sex	
Male	285
Female	567
Total	852

Our discussion today will be confined solely to inflammatory stricture of the rectum, which in the majority of cases can be considered a sequela of lymphogranuloma venereum. Virtually every known form of chemical, biologic, radiologic, electrical, surgical and physiotherapeutic procedure has been employed in these cases consistent with the type of stricture, duration and associated complications. A series of 648 cases has been examined, which are apportioned as follows:

Table 3

Sex	
Female	537 or 82.8%
Male	111
Total	648
Race	
Colored	447 or 68.9%
White	201
Total	648

Table 4

Age	
10-20	31
21-30	194
31-40	239
41-50	157
51-60	14
61-70	9
Over 70	4
Total	648

Recent reports are available in which the employment of diathermy, carbon dioxide snow, electrolysis, and even sulfanilamide have offered attractive results, but observations in our clinics compel us to differ markedly. In the treatment of inflammatory rectal stricture, the existing pathologic condition must be keenly appreciated.

As a result of the etiologic irritant the inflammatory process gradually becomes chronic in nature so that various layers of the rectum and tissue outside its wall are involved by continuity and contiguity of structure. Because of this chronic inflammation, much young fibroblastic tissue is deposited in the submucosa as well as in the other coats, which gradually leads to thickening. By subsequent contracture of the maturing fibroblastic tissue, the thickening becomes markedly increased so that there eventually results a firm, inelastic, permanent narrowing to which the term stricture is applied. Erosions of the mucous membrane are at first noted, followed by ulcerations, so that the surrounding mucosa appears altered and somewhat lusterless. Fistulous tracts may be found passing to the perirectal tissues, to adjacent structures as the bladder, urethra, vagina, or through the skin. The discharge is frequently abundant, mucopurulent and often sanious. This is the usual picture which serves to portray this pathologic process of the rectum. As mentioned a few years ago, and indeed it is the general consensus today, for permanency of cure, especially of those of the tubular variety, the treatment is radical surgery. Radical extirpation embodies many types of operative procedures. Experience has shown that any maneuver which calls for division of the peritoneal floor at the time the stricture is extirpated, carries a mortality that triples and even quadruples similar operations for carcinoma, namely, 65 to 80 per cent. The procedure designed by Lockhart-Mummery with modifications affords many advantages without concomitant disadvantages.

The first stage consists of the establishment of a double-barreled colostomy. Under spinal analgesia, a small abdominal incision is made from a point two inches above and lateral to the spine of the pubis and carried upward and lateral until it is on a line with and mesial to the left anterior superior iliac spine. The fibers of each muscle layer are separated and retracted. The exposed peritoneum is opened and the hooked finger passed beneath the sigmoid to draw it through the wound. An incision perpendicular to the bowel is made in the lateral leaf of the mesosigmoid for a distance of 1 to 1½ inches and a small rubber catheter is introduced through the aperture. The rubber tube is then clamped to serve for gentle traction. The extremities of the cut peritoneum are identified and held taut, following which hemostats are passed through the incised mesosigmoid to grasp the mesial leaf of the peritoneum. The latter is drawn through the rent in the mesosigmoid and tacked to the lateral peritoneum in an interrupted fashion, using No. 2 chromic. The aponeuroses of the external and internal oblique muscles are closed by lapping between the loops of bowel, using interrupted alloy steel wire; the skin is approximated with fine wire. Finally the skin wound is covered with gauze saturated with tincture of benzoin and overlaid with a layer of

cellophane. The entire exteriorized bowel is enveloped with vaselin gauze. After 48 hours, when the reparative processes are established, the bowel may be divided transversely; ordinarily this is done on the fourth or fifth day. Only the skin sutures are removed. Thereafter, as with a two-stage Lahey maneuver, the lower bowel is irrigated daily with warm potassium permanganate solution for a period of three to six months. This is of utmost importance to minimize the degree of existing infection.

The second stage is done under lumbar analgesia, employing pontocaine and glucose. The patient is placed in the lithotomy position and the anus closed with a purse-string suture of linen. An incision is made in the posterior midline from a point immediately above the coccyx down to and around the anus. Seldom is the coccyx disarticulated. The incision is deepened and the underlying fascia and levator ani muscles are divided. By drawing the anus backward, the rectum is dissected from the prostate or vagina and the dissection is carried upward until the bowel is completely mobilized to a point well above the upper limit of the stricture. Immediately above the summit of the stricture and below the peritoneal reflection two pairs of right-angle Mikulicz clamps are applied to the rectum. The bowel is divided between clamps by means of cautery and the distal or stricture portion removed from the operative field; the remaining stump is ligated with No. 2 chromic catgut. Finally the clamp is discarded and the closed end of the rectum inverted with silk or fine alloy steel wire. Ordinarily, the wound is permitted to granulate in from its base, although a few interrupted wire sutures may be introduced in the vault of the wound. Several long cigarette drains of gauze and cellophane preferably are introduced loosely.

Twenty-four cases of stricture in our series have been treated by this means without any mortality. The large majority have experienced a rather protracted convalescence; and two cases in which the vaginal wall was divided caused us considerable concern. An average period of hospitalization following the first stage was twelve days and following the second stage was twenty-nine days.

In four cases sloughing of the inverted bowel occurred with a resultant draining sinus. In all a debridement was accomplished and the bowel finally closed with a fine alloy steel wire. Invalidism was fairly marked following the perineal proctectomy. In seven cases subsequent contracture of the skin about the colostomy occurred; in three, skin graft was employed.

In all of these cases, and more than six months have elapsed since complete healing was noted, the end results have been very encouraging. While one is hesitant to form conclusions from a small series of cases and although various complications have been encountered and frequent re-examinations have been necessary, we have had no mortality and the end results have been more satisfactory than by any other means previously employed.

SUMMARY

A series of 852 cases of lymphogranuloma venereum have been reported, of which 648 are strictures. Various forms of therapy have proven unsatisfactory, especially in the tubular variety of stricture. Twenty-four cases have been surgically treated by a two-stage Lockhart-Mummery technic with modifications. It is our opinion that the treatment of inflammatory stricture calls for a maneuver by which extirpation at the same time the pelvic floor is divided can be more or less obviated. Of utmost value is the prolonged period between the first and second stages, during which time the constitutional condition of the patient can be improved, and the mural and perimural infection lessened by daily irrigations.

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DISCUSSION (*Abstract*)

Dr. Wm. J. Martin, Jr., Louisville, Ky.—There is little than can be said definitely about lymphogranuloma venereum, just as there is little that can be said about chronic ulcerative colitis. Both are often very debilitating chronic diseases. They have received very great attention in recent years. Lymphogranuloma involving the lower bowel is a relatively new entity, if it be an entity, in this country. It was not well understood until recently, and I am not certain that it is well understood yet.

Many men have done much work upon it. Opinions are still widely divided as to the proper approach to these cases. These people are miserable, just as the people with chronic ulcerative colitis are miserable.

We see few of these cases in private practice. In my own private practice, which is not of very long duration, I do not believe I have had more than two cases of lymphogranuloma venereum. We see a good many cases at the City Hospital but the condition has been taken out of the department of proctology to a certain extent because the type of treatment being tried now is a medical regime.

I am not satisfied that the surgical approach is the final answer, just as we have found that the surgical approach to chronic ulcerative colitis is not the method

of choice. Both of these diseases, lymphogranulomatous stricture of the rectum and chronic ulcerative colitis may be controlled to a certain degree, as a rule, but few definite cures are obtained.

We have with us today a man who is very much interested in this work and has treated many cases. I now take the privilege of asking Dr. Malcolm Barnes, Instructor in Pathology at the University of Louisville Medical School, to continue my discussion.

Dr. Malcolm Barnes, Louisville, Ky.—Slightly over four years ago I, with the customary mixture of rashness and temerity of a neophyte, rushed into a consideration of lymphogranuloma venereum and allied venereal diseases.

During that time we have had several thousand cases in this group. I have made no effort as yet to separate my cases of rectal stricture; however, in routine tests on hospital patients I found that about 8.3 per cent of our hospital cases here in the city have positive Frei tests. If we consider only the colored female group, we boost that percentage to almost 16.

When we started the work, the rectal stricture cases that came to us were those which had had repeated dilatations. Those dilatations had occurred at ever shorter intervals until finally they were being dilated within a few days after they left the hospital. Those women had a very profuse discharge. We started them on, I believe we pioneered, perhaps not in publication, but in the use of sulfanilamide along with Frei antigen.

We have followed our cases diligently. We have set up a clinic for the special purpose of following them. They have received treatment two or three times a week, usually beginning with three times a week, 0.2 c. c. of intradermal Frei antigen, accompanied by heavy doses of sulfanilamide.

The patients have been carried not for a matter of weeks but for a matter of months or years. They first have a marked increase in the amount of discharge, but the discharge becomes quite thin and watery. Then, within a period of ten days to two weeks, the discharge is practically or completely gone and, when followed, it completely disappears. The patients volunteer the information that they feel better generally and that they are rid of a sensation of heaviness in the deep pelvis that they have had for years. We also find that they can then be dilated and go along indefinitely.

Since we have started this, we have attempted to prepare patients for operation but we have found that in practically 100 per cent of cases they are so completely satisfied that they do not want operation.

Dr. Bacon has handled the situation much better than by the old double-barrel colostomy, in which there was no extirpation of the lower bowel, because in those patients the disease still remained and progressed, and we have a number of patients who had colostomies who went on to stricture of their colostomy, and some of them have abdomens that look like a battle-scarred field.

By our method we are able to prevent stricturing of the colostomy. True we propose, and are doing, operative procedures, and I think that Dr. Bacon is definitely bridging a gap.

Our method has two very definite drawbacks. One is that Frei antigen is certainly difficult to obtain. We are now at the point where we have had no good buboes for production of antigen for several months. The other is that few institutions are willing to, or are situated so that they can adequately follow these patients.

Perhaps our training with colostomy patients is not what it should be. I, myself, certainly should not want a colostomy unless it were absolutely necessary, and our patients who have colostomies are not as a rule happy about it.

If we can bridge that gap, what it going to happen to these patients in the next fifteen or twenty years I do not know. I believe that if we could suggest a preoperative preparation of the patient and then extirpation of the disease, that it could be cured.

Dr. Rufus C. Alley, Lexington, Ky.—We should not lose our perspective by talking about a single, narrow phase of a rather large subject. Lymphogranuloma venereum has been called a great many names that serve only to confuse the subject. Among these names are lymphogranuloma inguinale, lymphopathia venerea, climatic bubo, tropical bubo, strumous bubo, Nicolas-Favre-Durand disease, subacute inguinal lymphogranulomatosis, fourth venereal disease, sixth venereal disease, non-venereal bubo, non-tuberculous granulomatous lymphadenitis, and perhaps many more. It is certainly desirable to abandon all these confusing names and adopt the standardized descriptive term of lymphogranuloma venereum.

The manifestations of this infection vary depending upon the sex and the site of entrance. It is a specific infection produced by a filtrable virus, usually transmitted by sexual contact. In the male the lymph drainage from the genital organs is into the inguinal lymphatics, and these are the structures usually involved secondarily. In the female the drainage from the genitals is back into the rectal and perirectal lymphatics, and it is for this reason that the rectum is frequently involved in the female.

In my own work I have been able to classify rectal involvement by lymphogranuloma venereum into three definite stages:

The first stage is that of proctitis, in which there is diffuse ulceration and rather profuse discharge, with some early infiltration of the rectal wall.

In the second stage the rectal wall is definitely involved. It becomes thickened and leathery in character. The ulceration has progressed and the discharge is even more profuse. This is the prestenotic stage.

The third stage is the extensive fibrosis and cicatricial contraction with formation of the typical inflammatory stricture.

When the third stage occurs, that is, stricture formation, the patient will require colostomy. This should be done without delay. It is sometimes amazing to note the favorable effect of colostomy on these patients. When a stricture forms, a partial obstruction is produced, and it is accompanied by a more or less severe toxemia, with cachexia, loss of appetite, and considerable loss of weight. When colostomy is done, these patients usually show great improvement within a short period of time. They gain weight, feel better and the inflammatory reaction in the rectum subsides to a large degree, especially if irrigations and other local treatments are used.

Now the question in my mind concerning Dr. Bacon's presentation is just why should a proctectomy be done upon these patients. Dr. Barnes has said that in an

occasional case the inflammatory reaction will go up the bowel and reach the colostomy, producing a very difficult situation. In my experience this occurs in only a small minority of the cases.

The majority of patients who have colostomy for rectal stricture show great improvement, the inflammation subsides, and the patient becomes pretty well satisfied with the treatments he has had.

I am not exactly clear in my own mind as to just what are the indications for perineal proctectomy which Dr. Bacon has done, and I hope when he closes his discussion, he will dwell more at length on this particular point.

Dr. Herbert T. Hayes, Houston, Tex.—Dr. Alley brought up the question, why should a proctectomy be done? Some ten or twelve years ago I did two proctectomies for strictures of the rectum, and the reason that I did them is that there is general absorption of toxic substances and poisons from the infectious area. There is a severe focus of infection there, such as you might have from bad teeth, or bad tonsils, and that is the real reason why a proctectomy should be done.

The two cases I treated were having arthritis. The usual tonsils, teeth, and everything else were cleared up, and they continued to have general symptoms, and we removed the rectum. I remember that one improved and I do not remember what became of the other one.

Dr. Curtice Rosser, Dallas, Tex.—There must be a reason why a high percentage of patients with the most destructive effects of lymphopathia venerea are of the negro race. The other venereal diseases are not respectors of any particular sex or any particular race.

Here is a disease, apparently venereal, in which the most severe residual fibrotic manifestations are seen almost entirely in the colored female. An explanation for this I suggested some twelve or fourteen years ago. The negro race has a fibroplastic diathesis, a tendency to form excess fibrous tissue in response to any type of irritant, chemical, mechanical or inflammatory. Since the virus could presumably attack the white as well as the colored race, but since the fibrous manifestations of this disease are seen largely in the colored race, it seems to me that it must be this particular racial trait which is responsible.

It is only in recent years that this subject has been treated as anything more than a scientific curiosity. For that reason, the reports made today including the description of Dr. Bacon's attempts to eradicate the disease by radical surgery and the work being done locally in the chemical treatment of the lesion offer real encouragement.

None of us knows what the final result will be, but it is apparent that we are now approaching this particular problem with a definite prospect of discovering some specific cure. The long periods during which we dilated these strictures, froze them with carbon dioxide snow, irrigated them, and so forth, left us about where we started; but I feel tremendously optimistic that out of the intensive work being done now some cure may come for this disabling and economically important disease.

Dr. Bacon (closing).—If these unfortunates are given a colostomy the period of confinement is but ten to twelve days' hospitalization. The pathologic condition, however, is not removed and they continue to be chronic invalids. We are only too cognizant of the fact that they improve very markedly systemically and locally so far as the anorectal symptoms are concerned after a colostomy, but personally I feel that our work is only begun after they are colostomized. If we have the courage and the patient is willing, a two-stage abdominoperineal extirpation for lymphogranulomatous strictures of the tubular variety is by all means the procedure to be advocated.

EARLY DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE RECTUM*

By THOMAS E. JONES, M.D.
Cleveland, Ohio

As the theme of this paper it would be well to take the statement made by Dr. Dan Jones, of Boston, many years ago in which he said:

"There is no disease that can be diagnosticated with more accuracy than cancer of the rectum after the patient once presents himself and yet there are few diseases which are diagnosticated so late in their course."

We then naturally ask why is this so and, if it is true, what can be done about it? An impartial analysis reveals the following facts:

(1) A certain number of patients absolutely neglect themselves and will not go to a physician until they are in a hopeless condition. However, this group is relatively small and our only hope for bettering the condition is to endorse the intelligent propaganda that has been started and is being continued by the American Society for the Control of Cancer. We all have seen beneficial results from this campaign.

(2) Another very small group of patients is those who have been advised as to the proper diagnosis and treatment and who leave the physician's office to find relief by quack methods.

(3) The largest group, which probably comprises 85 to 90 per cent of the cases, directly concerns the physician and is the group for which I believe we could do more than we are doing today. The responsibility of the diagnosis rests squarely upon the shoulders of the general practitioner. Probably 25 per cent of these cases have had operations for hemorrhoids within the previous six months, an equal number have been given paregoric for diarrhea for many months, and many with the diagnosis of colitis have been

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*From the Cleveland Clinic.

treated with vaccines for a long period of time. These are mostly errors of omission, namely, failure to take a good history and to make the proper examination when the patient first presents himself. Competition is becoming rather keen and patients are getting more scarce, so it may not be good policy to give a bottle of medicine for any bowel disorder because, if it does not cure the patient, he very probably will consult another physician and, as you know, there are plenty of us around these days.

One of the most embarrassing questions asked of the consulting surgeon by the patient is, "How long has this growth been coming on?" One has to think pretty fast sometimes to answer that one. The patient is usually well enough informed to know that cancer does not appear overnight and that he has been treated for a long time with the wrong diagnosis and this, of course, strains the relation between physician and patient.

There is a great public interest in cancer and in these days of reforms of all kinds it is within the realm of possibility that cancer may become a reportable disease. These statistics may uncover considerable neglect on our part in allowing delay in these cases. The correction of this condition is in our hands at the present moment.

The diagnosis of carcinoma of the rectum is simple and sure if carried out in a methodical manner. The procedure may sound elementary, yet, if I were instructing the Board of Regents of the American College of Surgeons, I should have nothing more to say. It is the same old story, and applies to master surgeon and to general practitioner alike.

I said a methodical manner is essential because if one does not follow it, he is likely to omit something. There is where the mistakes in diagnosis occur. When a patient presents himself with an intestinal disorder, the first and most important step is a good, accurate, sequential history. It takes but a few minutes to inquire of the intestinal function from childhood on, the relation to eating, changes in bowel habit whether it be constipation or diarrhea, the presence of blood and mucus, pain, and tenesmus. We all should know the questions even if we do not know the answers.

Unfortunately, there may be no symptoms of early carcinoma of the rectum, for small lesions do not alter physiologic functions and the changes are so gradual that the patient often minimizes the symptoms. A change in bowel habit is most significant and may occur months before any bleeding is detected. A patient who has had regular bowel habits for years suddenly notices that he becomes constipated or has a feeling of incomplete evacuation. This condition demands digital and proctoscopic examinations. As the ulceration becomes large, a considerable discharge of mucus and pus causes frequent emissions, which is construed as a diarrhea by the patient, and that is his complaint. Should the physician choose to examine the stool, he will immediately realize that it was not diarrhea, and make further investigation.

Only occasionally is a sudden hemorrhage the first symptom. More often blood appears in small amounts mixed with or streaking the stool. It may be bright red or dark red; it makes little difference. The presence of blood calls for complete investigation.

If the lesion is low lying, involving the anal canal, pain may be an early symptom. If high in the ampulla, pain is a very late symptom and generally suggests metastasis to the glands or pressure upon the sacral nerves.

Inasmuch as there is no standard set of symptoms for carcinoma of the rectum, a diagnosis cannot be made from the history alone, because other diseases may mimic it. However, the history will give a clue which should be followed up by the next step, which is examination. The patient should be undressed so that a thorough abdominal palpation may be made. Next, an inspection of the anus should be made to ascertain whether or not some associated condition may cause pain when digital and proctoscopic examinations are made. If there is pain, preparation should be made to make the examination painless; otherwise, the physician may be unable to secure the desired information, and the patient may not return for further study.

When doing the digital examination, the entire length of the finger should be well lubricated. The patient should be instructed to strain down during the examination either in the Simms or in the squatting position, because frequently a lesion which might not otherwise be palpable may be pushed down to the end of the examining finger. If a malignancy is present, an ulceration with a raised hard, irregular, nodular border will be felt. If the lesion completely surrounds the lumen, examination will reveal a hard mass, the center of which is ragged and nodular. With the finger in the rectum, one may note the size and location of the growth and any degree of fixation, which is necessary in considering operability.

Following the digital examination, a proctoscopic or sigmoidoscopic examination is indicated. If the digital examination has been painless and if you have the patient's confidence, he will return for this examination. A thoroughly clean bowel is required and it is best to postpone this procedure until the patient has had a laxative.

No one has a patent on the proctoscopic examination. Every general practitioner should be able to pass a five-inch proctoscope and, if so, he will be able to diagnose 75 to 80 per cent of the carcinomas of the colon, which is about the percentage occurring in the rectum and rectosigmoid. A tilt-table or knee-chest position facilitates the examination. The direction of the anal canal must be estimated by the digital examination just before the proctoscope is inserted. As soon as it enters the rectum, the obturator should be removed and the scope passed up under direct vision. Proctoscopic examination usually reveals a single, punched-out ulcer with indurated and nodular edges, and an absolutely normal contiguous mucosa. In the papillary types of lesions growing into the lumen of the bowel, there will be no crater. These lesions are generally very friable and fragments of tumor may be broken off upon the slightest manipulation. In this type of tumor a negative biopsy may be misleading, for the superficial biopsy may be negative, whereas one taken near the base of the lesion may be positive.

If a lesion is found, the question of biopsy comes up next. It is generally agreed that this does no harm. It is painless and is an office procedure.

If the digital and proctoscopic examinations are negative, roentgen examination of the colon should be made.

In recent years we have heard a great deal about the high cost of medical care, and the physician is not immune from some criticism in this respect. It has become too easy to say, "Have an x-ray and see what is wrong." There are two faults to find with this. First, it costs money. Secondly, as far as the rectum is concerned a malignancy is very difficult to demonstrate by x-ray, and if a negative report is made there is again further delay.

Here again the cure is in our own hands if we wish to make it so. It may be well to have a law or an ordinance that an affidavit should be produced showing that the patient has had a digital and proctoscopic examination before the colon could be x-rayed. I am sure from my own observation that many errors could be eliminated thereby.

Here it is well to use the roentgenologist as a consultant. Instead of ordering a routine x-ray of the colon, tell the roentgenologist the history and what you suspect. By so doing, he may assume some of the responsibility. If no malignancy is present everyone is happy. However, if one is found, you may well feel that there has been no delay on your part.

One word of caution: if a definite diagnosis has not been made, keep the patient under observation. An early lesion may be overlooked by roentgen examination and if the symptoms persist, the patient must be examined again in a period of one or two months.

If a biopsy has been taken, the report from the pathologist will grade the malignancy. However, do not let that affect your judgment with regard to surgical treatment. If in your own clinical judgment the lesion is operable, surgery is the treatment of choice.

If a diagnosis of a carcinoma of the rectum has been made, the method of treatment should be considered. Most of us agree that surgery is the treatment of choice, but in making this decision the patient must be considered as well as his disease. In weighing the many factors that enter into treatment, it is only fair that the surgeon should weigh himself with regard to his own capabilities and experience. The factors influencing operability are numerous and naturally vary with the experience of the operator. With greater experience the surgeon finds himself increasing the scope of operability even at the expense of a higher mortality, and he will have a higher percentage of five-year immunity from the disease. Age, obesity, associated cardiorenal disease, diabetes, location and fixation of the growth should be considered in choosing the procedure best adapted to the patient.

One important fact to remember is that operation for carcinoma of the rectum or rectosigmoid is not an emergency procedure except in the rare case of obstruction of the rectosigmoid. Too often the family and unfortunately the physician get hysterical at the finding of the neoplasm and want it removed immediately. This is a grave mistake. The patient should be hospitalized for further study. Any relation to cardiorenal disease should be investigated. In men with genito-urinary symptoms, we should be sure that there is no prostatic obstruction. Because of the extent of the operation, the bladder function is impaired for a time and prostatic

hypertrophy may further interfere with function or may even be fatal if not recognized. During the hospital stay, the bowel must be decompressd. This usually can be done by medical measures. Saline laxatives in gradually increasing doses pour a great deal of water into the colon and enemas scrupulously clean the bowel for the procedure to be employed, whether the one- or two-stage operation. A non-residue diet, high in carbohydrates and proteins, is essential. Transfusion is given in cases with a hemoglobin under 65 per cent. The chest should be x-rayed.

Although a greatly detailed description of the various surgical technics is not feasible here, I should like to say that there is no such lesion as a benign carcinoma, as grade number one frequently will be misleading. Do not perform a small operation for a small carcinoma, and a large operation for a large carcinoma. It seems paradoxical to preach early diagnosis and then resort to a minor procedure. If we are to increase the curability rate, we must do radical operations for early carcinoma. We do it elsewhere, so why not in the rectum? It is unfortunate that the price of cure often entails a permanent colostomy, but it is a small price to pay for protection against the distressing conditions resulting from smaller operations or operations designed to save the sphincter. Generally speaking, it is best to do the type of operation with which you are most familiar or which the facilities at hand allow you to do. However, it is wise to acknowledge the fact that considerable progress has been made in recent years towards making the radical operation safer than many minor procedures were a good many years ago.

In low lying anorectal lesions, excision of the rectum either with a perineal anus or colostomy is a justifiable procedure. In these cases the lymphatic drainage is to the inguinal region and the areas must be examined closely and watched frequently postoperatively for metastasis. However, this comprises only about 3 per cent.

For lesions in the ampulla, the abdominoperineal operation is my preference as the treatment of choice. Only occasionally in the aged and infirm, or because of limitation of the surgeon's experience, is the colostomy and posterior resection justified.

The abdominoperineal resection may be done in one or two stages, but the one-stage procedure is my preference. If the operation is successful and entails performing a colostomy, the surgeon's obligation is not completely discharged until he takes time to explain in simple terms something about the anatomy and physiology of the colon and instructs the patient in the care of the colostomy.

This is very important if the patients are to resume their previous positions in society. They need encouragement; for there is no reason whatsoever for their being social outcasts. Too often in the past the only instruction given the patient was to go and get a colostomy bag. Most of us feel today that the less he knows about a colostomy bag the better off he is. Mortality from the operation is 10 per cent. In my experience postoperative roentgen therapy has not been useful in this group of cases.

In closing, I wish to say that we are dealing with a condition which has a hopeful outlook. The diagnosis in itself is simplicity personified and if the diagnosis was made when the patient first presented himself we could probably extend the present curability rate of 50 per cent to 75 per cent.

THE TREATMENT OF SURGICAL SHOCK WITH BLOOD PLASMA*

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When one undertakes the discussion of the treatment of a disease, or condition, that remains controversial in definition, etiology and pathology, he may very properly be charged with mental vagrancy. That is exactly the position in which one is placed when shock is the topic.

Moon[1] has defined shock as

"a circulatory deficiency not cardiac or vasomotor in origin characterized by a decreased volume of blood, reduced cardiac output and by hemoconcentration."

Cannon states that a definition is not essential in such a complex, and suggests as a substitute for the word shock, "exemia." Each of us has his own conception of shock that will not be altered or replaced by a word or definition.

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A brief resume of some of the fundamentals involved would be helpful in understanding the rationale of the treatment. The action takes place in the capillaries. These minute vascular channels are capable of great dilatation under normal and abnormal stimuli. The total area or blood capacity of the capillaries is many times the capacity of the arterioles which carry blood into them and likewise greater than the venules which carry the blood away. If these capillaries throughout the body should be suddenly and completely dilated, the entire volume of blood would lie within them and the patient would bleed into his own capillaries and suffer shock to the nth degree. This is not possible, but the same process does occur to a less degree. When the blood accumulates in the dilated capillaries, the volume in circulation is reduced 10, 20, or even 30 per cent, and at the same time plasma escapes from the capillaries, not by osmosis alone, but by permeability of the damaged walls of the capillaries. This is known as hemoconcentration. A specimen of this capillary blood will show by the hematocrit, hemoglobin, red cell count, or specific gravity, a relative increase in the cellular elements of the blood. The dilatation of the capillaries takes out of the effectual, or active circulation, a large amount of blood, and this isolated blood loses considerable of its plasma. The volume capacity of the circulatory system has been increased, but the volume of blood in circulation has been diminished. This, briefly, is the mechanism of shock. The degree of shock stands in direct relation to the amount of blood segregated in the capillaries. With less blood in circulation, less oxygen is supplied to the tissues, consequently the lack of oxygen or anoxemia is conspicuously present.

The lessened volume of blood lowers the blood pressure and we witness a train of symptoms dependent on lack of oxygen and low blood pressure. Shock may be present with or without gross hemorrhage. The differentiation is not easy when the hemorrhage is concealed, but we do not consider the differentiation indispensable in the treatment of shock. In hemorrhage the blood escapes from the vessels by trauma into surrounding tissues, cavities, or externally, while in shock the blood flows into widely dilated capillaries with almost complete stasis.

It is pertinent to inquire into the nature of the impulse which dilates the capillaries and initiates the shock. There is a mass of experimental data from which it is almost impossible to construct an indisputable conclusion, but several views may be briefly mentioned.

Histamine in its specific action in dilating capillaries has been the outstanding example of a substance which induces shock. The theory has been advanced and widely accepted that the cells of the body release by surgical or mechanical trauma, toxemia, burns, or intestinal obstruction, a substance that acts on the capillaries like histamine. It is designated H-substance. It is conceivable that such a substance once elaborated, and transmitted by the circulation, or any other means, may produce hemoconcentration, or shock.

Scudder[2] maintains that the unbalance of potassium salts is directly responsible for shock, and says:

> "It is evident, then, that one of the phenomena of shock, whether produced by tissue abuse, loss of fluids, hemorrhage, stimulation of the sympathetic nervous system, injection of toxins, or destruction of adrenal cortex, is an alteration of potassium metabolism, a derangement of which serves as an indication of profound cell injury."

Blalock[3] believes that hyperpotassemia is a sustaining, rather than an irritating, factor in shock and the variations in the potassium metabolism are the result rather than the cause of peripheral circulatory failure.

The lack of the hormone of the cortex of the adrenal glands has been accorded some prominence in the etiology of shock, and not without experimental support.

It becomes increasingly difficult, or impossible, to classify shock, except in rather broad types, but the word will probably be retained to cover a clinical syndrome characterized by acute hypotension, rapid pulse, increased rate and shallowness of respiration, lowered surface temperature, moist skin, and depression of the faculties. If attended with hemorrhage there may be additional symptoms which accompany loss of blood: impalpable pulse, thirst, and pallor.

As clinicians we recognize shock as accompanying, or as a sequence to, operations, or grave trauma, in the wake of intestinal obstruction, attending extensive burns, associated with injection of protein solutions, and even after prolonged anesthesia. There have been attempts made to distinguish between shock and hemorrhage by laboratory or clinical methods, but we feel that the distinction is neither possible, necessary, nor practical. In many cases the conditions are so intimately blended that a clinical

division belongs to the speculative field. Some investigators have stated that hemorrhage is always present in shock, and are, in fact, one and the same.

The presence of shock can be definitely and positively established by laboratory and clinical procedures. To utilize these methods, it is necessary to know certain facts about the patient, prior to the onset of shock, for the purpose of comparison. We should know the blood pressure, the red cell count, the hemoglobin, and in critical cases, the blood protein. There is no absolute standard of measurement for these conditions. The diagnosis of shock is made by the variations in the individual patient and not by a fixed standard that applies to all patients. We are disposed to assume that the systolic blood pressure of a man 50 years old is 140 to 150 mm. of mercury, but we see many individuals who lead active and normal lives with pressure thirty points above or below the so-called normal. And so it goes with the red cells and hemoglobin, but the blood protein ranges within comparatively narrow limits.

Moon[4] has stated and seemingly proved that hemoconcentration is first manifested by increased cell volume in the hematocrit, or increase in the red cell count 10 to 30 per cent. This, he states, is the earliest indication of shock.

We are in accord with Scudder's statements that the earliest signs of shock are found by the use of the hematocrit and by obtaining specific gravity of the blood, specific gravity of the plasma, and total protein of the blood. We have been using these facilities, employing the falling drop method of estimating specific gravity and protein content, but cannot agree that it is hours ahead of the clinical manifestations of shock. Those engaged actively in the practice of surgery are conversant with the fact that the entire phenomena of shock may be injected into the picture in an hour or a small fraction thereof.

In a moderately large surgical service we do not believe the hematocrit, the blood count, and the falling drop method of identifying shock can be made a routine procedure without more technicians and equipment than are usually provided. We have relied on repeated readings of blood pressures and critical observation of the patient as our index, and have no reason after eighteen months' experience to change our opinion. In a limited number of cases, in which we have used the red cell count and hematocrit as indicators of shock, we are convinced that these tests have merit, but we prefer blood pressure as an index.

A level of 80 mm. of mercury has been arbitrarily set as the lowest level of systolic pressure compatible with the well being of the patient. This is known as the critical level, below which the patient's life is said to be in jeopardy. We do not believe that actual experience justifies such a fast line, but it serves a purpose at least as a danger signal.

The fall in systolic pressure may be extremely rapid and merge with the diastolic pressure, with a resulting pulse pressure of zero, and of necessity produce a state of profound shock. We have made it a practice to record blood pressures before, during and after operations, and in other conditions which may be attended by shock, and it is our judgment that it is the most accurate and rapid clinical method of estimating shock, irrespective of the cause. You can be assured that with falling pressure readings, clinical signs and symptoms will not be lacking, but whether present or absent, low blood and pulse pressures cannot be disregarded. Mahoney[5] says:

"The early decline in pulse pressure should be stressed clinically in recognizing impending shock."

The problem in the treatment of shock is to restore the volume of blood in circulation, and of necessity, keep it circulating. Riddell[6] says:

"Up to the present time the only effective means of restoring the blood volume to normal is by the intravenous injection of fluid having a colloid content, and therefore osmotic tension as nearly as possible the same as normal serum. If isotonic solutions are used the fluid introduced passes rapidly into the tissue spaces, so that the restorative effect on the blood volume is only of a temporary nature."

Plasma has escaped from the permeable capillaries and left the blood cells concentrated and almost static. Reduced to its simplest terms, the treatment of shock consists in augmenting the volume of blood in circulation. Transfusion of blood is the logical remedy. We know that shock or hemorrhage cannot be anticipated in many cases and unless a blood bank is in operation the delay incident to obtaining donors, drawing and typing blood, consumes precious time, and not without risk of a reaction, however carefully prepared. A blood bank offers many advantages over a donor "on order," but it, too, is not free from reactions, depending largely on the type of apparatus used, the care of the tubing and glassware, and accurate matching. We found in our bank that blood over seven days old was not safe for transfusions. We centri-

fuged it and salvaged the plasma, which was used as a substitute for whole blood. We were impressed by the prompt response in shock, the absence of reactions and the rapidity with which it could be administered. From a very cautious beginning we expanded its preparation and use until a very definite and workable plan was evolved, as follows: the blood is drawn in negative pressure flasks containing the citrate solution. It is allowed to stand a few hours, then centrifuged. The plasma, about 250 c. c. from 500 c. c. of blood, is drawn by the closed method into another flask containing 250 c. c. of salt solution. The plasma is ready for use at once. It may be refrigerated or kept on a laboratory shelf or in an operating room. It is not pooled, nor is any preservative added. We have kept plasma as long as eight months at room temperature and used it without reaction. The mass of cells thrown down by the centrifuge can be suspended in salt solution and used in certain types of anemia after cross-matching. We believe it has very little other value.

Another method is on trial whereby citrated blood may be allowed to stand two weeks to separate cells and plasma. The plasma can be siphoned off and used at any time. This eliminates the centrifuge. Our experience with this method extends only over one month and we consequently hesitate to express an opinion on the relative merits of the two methods of preparation of plasma.

This paper is based on 100 cases of shock occurring in the surgical, obstetrical, gynecologic, orthopedic and accident services of a municipal hospital,* covering a period of approximately eighteen months. We have used over 750,000 c. c. of plasma saline. More than 700 intravenous, intramuscular or subcutaneous injections were given with but two reactions, neither severe. We have given as much as 4,000 c. c. at one continuous intravenous injection and have used 36,000 c. c. in one patient, a case of hypoproteinemia. We still maintain a blood bank, but plasma saline transfusions have largely replaced blood transfusions, because of the simplicity in administration, its rapid availability, and absence of reactions.

In every instance of shock the blood pressure response has been prompt, but not necessarily sustained. That shock may be fatal is common knowledge. We believe that in a few of our cases the promptness with which plasma was given prevented a fatality, and this was particularly true in accident cases and postpartum hemorrhage. The superiority of plasma over the crystalloid solutions is its property to remain within the circulatory system. We know that the usual intravenous fluids pass rapidly into the perivascular spaces and their indiscriminate use leads to edema.

Our management of shock has been as follows: frequent recording of blood and pulse pressures, of pulse and respiration, and close clinical observation are routine. A rapid fall in pressure is a sufficient indication for the administration of saline plasma, varying in amounts from 250 to 1,000 c. c. intravenously. This is usually followed promptly by a partial restoration in blood and pulse pressures, but frequent readings are continued. We have noticed in the severe cases the rise of pressure is slower and relapses do occur. In such instances repeated administration of plasma is instituted. If at any period, regardless of the time that has elapsed since the administration of plasma, the critical pressure, or a lower reading is approached, additional plasma is given. There is no assurance that major cases, leaving the operating room in a satisfactory condition, will escape shock, and we strongly urge that they be the subject of competent observation for forty-eight hours, and they should be governed by the same rules as for primary shock. To carry out this treatment we have entrusted the preparation and administration of plasma to a team of technicians, nurses and interns, who have been drilled in this work.

We do not propose that other ways of combating shock should be abandoned. Acacia has been used because it remains in the blood vessels. This constitutes a fault rather than a virtue, as it is appropriated and eliminated very, very slowly. Cannon has been quoted as stating that acacia has done more harm than good.

The adrenal cortex, as an animal extract or a synthetic preparation, has many advocates, particularly from an experimental standpoint, and no less an authority than Scudder supports its use.

Eggleston and Weiss[7] believe that adrenal cortical hormone acts by preservation of plasma volume and there is little evidence of any benefit after shock has appeared. Medication directed toward raising the blood pressure by contracting arterioles fail to meet the situation. They exert no influence on hemoconcentration and conse-

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quently do not increase the volume of blood in circulation.

Oxygen, without doubt, has a place in the treatment of shock and deserves a much more extended use. It is possible that it will occupy an important place in our therapy.

We have not used blood serum,[8] but believe that when prepared by those with adequate training and supervision its intravenous use involves little risk. We feel, however, that plasma is simpler in preparation, contains as much or more desirable constituents than serum, and can be given intravenously, intramuscularly, or subcutaneously, without a serious reaction. We have had no experience with the concentrated sera recommended by Mudd,[9] Strumia[10] or Hill.[11]

Anti-histamine[12] has been suggested as a possible remedy, and not without reason, but considerable more experimental work must be submitted before its merit can be evaluated.

We have no hesitation in stating that if we were given the choice of but a single remedy in the treatment of shock, we should select blood plasma.

SUMMARY

Shock is characterized by a decreased volume of blood, reduced cardiac output, and hemoconcentration. The most practical method in use for the clinical diagnosis of shock is blood pressure readings. The relative and rapid fall in systolic and diastolic pressures, and the low pulse pressure, are the important guides. Blood plasma, next to whole blood, is the most efficient remedy. Plasma has advantages, not common to blood, namely:

Ready for immediate use

Typing is unnecessary

Keeps eight months, or longer, without refrigeration

Relatively free from reactions

Easily transported

May be given intravenously, intramuscularly, or subcutaneously.

If any evidence is needed to justify the use of plasma, we can state from an unimpeachable source that 10,000 voluntary donors have been enrolled in New York to supply plasma and 733 litres have been shipped abroad, much of which has reached its final destination, the veins of British soldiers.

BIBLIOGRAPHY

1. Moon, V. H.: Shock and Related Capillary Phenomena. New York: Oxford University Press, 1938.
2. Scudder, John: Shock: Blood Studies as a Guide to Therapy. Philadelphia: J. B. Lippincott Co., 1940.
3. Blalock, Alfred: Principles of Surgical Care, Shock and Other Problems. St. Louis: C. V. Mosby Co., 1940.
4. Moon, V. H.: Early Recognition of Shock and Its Differentiation from Hemorrhage. Ann. Surg., **110**:260, 1939.
5. Mahoney, Earle B.: Shock Treated by Preserved Plasma. Ann. Surg., **108**:178 (Aug.) 1938.
6. Riddell, V. H.: Blood Transfusion. London: Oxford Press, 1939.
7. Eggleston, Cary; and Weiss, Soma: Amer. Jour. Med. Sci., **197**:718 (May) 1939.
8. Levinson, Sidney; Rubovitz, Frand; and Nicheles, Heinrich: J.A.M.A., **115**:1163 (Oct.) 1940.
9. Flasdorf, E. W.; and Mudd, Stuart: Procedure and Apparatus for Preservation Lyophile Form of Serum and Other Biological Substances. Jour. Immunol., **29**:389 (Nov.) 1935.
10. Strumia, Max; and Wagner, J. A.: Treatment of Secondary Shock. J.A.M.A., **114**:1337 (April 6) 1940.
11. Hill, Joseph; and Pfeiffer, David: A New and Economical Desiccating Process Particularly Suitable for the Preparation of Concentrated Plasma or Serum for Intravenous Use. The Adtevac Process. Ann. Int. Med., **14**:201 (Aug.) 1940.
12. Sexton, Roy Lyman: Personal communication.

CLINICAL USE OF INTRAVENOUS ANESTHESIA ALONE AND IN COMBINATION WITH OTHER ANESTHETICS*

A METHOD OF ANESTHESIA ELIMINATING THE HAZARDS OF FIRE AND EXPLOSION

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The method of intravenous anesthesia is increasing in favor very rapidly, and the difficulties and apprehension attending its use which were previously encountered are becoming fewer. One of the chief reasons for this increase in the use of intravenous anesthesia has been the remarkable advance in the chemistry of barbituric acid preparations which, since the introduction of sodium iso-amylethyl barbiturate and sodium ethyl (l-methylbutyl) barbiturate, have been improved for anesthetic purposes to the point where we now have preparations which are short in their action and which are adaptable and satisfactory for many general anesthetic purposes. Some of the original agents, such as morphine, ether, alcohol, chloral, paraldehyde and tribromethyl alcohol, have a place and a certain utility as intravenous anesthetics, but by and large at the present time none of these agents possesses the same anesthetic qualifications as do such barbiturates as sodium ethyl thiobarbiturate or "evipal". There is little doubt that other preparations, whether they be barbiturates or not, will be found and it is quite likely that even a more efficient and safe agent will be discovered.

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I believe that it is correct to say that sodium ethyl thiobarbiturate ("pentothal" sodium) and sodium *n*-methyl-C-C-cyclo-hexamyl-methyl barbiturate ("evipal" soluble) are the two agents most commonly employed now as intravenous anesthetics. A comparison of their efficacy and safety has been made previously,[1] [2] [3] [4] and for the most part in our experience we prefer the former. However, in certain circumstances the latter may not only be useful, but indicated when the patient has been receiving sulfonamide compounds which are currently popular. There is said to be a danger of producing toxic hepatitis with resultant jaundice if "pentothal" sodium is administered in the presence of these sulfonamide compounds. "Pentothal" sodium may be used with relative safety if no sulfanilamide, sulfathiazole or sulfapyridine has been taken for thirty-six hours and, in our experience, may be used where these drugs have also been used.

The broadest application of intravenous anesthesia, and, unless otherwise specified, "pentothal" sodium is the agent usually employed, is found in those surgical cases in which a relatively short operating time interval is required and in which marked muscular relaxation is not essential. Thus for a great variety of procedures, such as dilatation and curettage, gynecologic vaginal perineal repair, breast biopsies, incision and drainage of abscesses, setting of certain fractures and minor orthopedic operations, skin grafts, encephalography and ventriculography, transurethral cystoscopic procedures,[5] including certain prostatic resections, certain plastic chest operations, and so forth, intravenous anesthesia is satisfactory. These are by no means all of the situations which are suitable for intravenous anesthesia, but the list serves to indicate some of the fields where the method is safe and practical. From our experience my colleagues and I feel that intravenous anesthesia is not indicated for very young children or for persons with markedly diminished pulmonary and cardiac reserve.

To enlarge on the flexible nature of the method, one may employ intravenous anesthesia preliminary to the induction of general anesthesia, eliminating the psychic trauma to which some patients seriously object, or it is singularly effective for the execution of certain painful regional anesthetic procedures such as bunion block or abdominal wall block. When spinal anesthesia is employed, the intravenous method may serve two purposes: first, to eliminate or control nausea and retching, especially for operations on the upper part of the abdomen, and secondly, to supplement a spinal anesthetic that is wearing off or one that has not been entirely satisfactory in producing adequate anesthesia. It should be emphasized here that, if intravenous anesthesia is used in combination with spinal anesthesia, the agent should be administered very slowly in 2.5 per cent concentration, and particular attention should be directed to the patient's respiration and blood pressure. One must avoid too marked a slowing or depression in respiratory rhythm. A wise and careful practice to follow when using spinal and intravenous anesthesia is the simultaneous administration of oxygen in order to prevent any degree of anoxia. One should not "crowd" intravenous anesthesia in the presence of spinal anesthesia which is inadequate in an effort to obtain complete surgical relaxation. It is much safer to change to some form of inhalation anesthesia.

For certain debilitated persons requiring laparotomy, the combination of regional block of the abdominal wall and intravenous anesthesia is entirely adequate for exploration, and as a rule this combination is sufficient to complete the surgical procedure required. Occasionally, situations are encountered in which intravenous anesthesia is used in combination with regional anesthesia or alone and in which one wishes to supplement the action of the intravenous anesthetic because the patient appears to have an increased tolerance or resistance to the barbiturate. In these circumstances, one may administer simultaneously a 50 per cent mixture of nitrous oxide and oxygen in order to supplement the intravenous anesthetic and minimize the amount of sodium ethyl thiobarbiturate which might be required. Anyone who has used sodium ethyl thiobarbiturate extensively has encountered persons who do require large amounts of the agent in a comparatively short period. For these cases, this method of using nitrous oxide and oxygen as supplement is recommended. Another adjunct to reduce the amount of sodium ethyl thiobarbiturate administered to persons who consume the agent very rapidly with less than the usual effects is the intravenous administration of additional morphine sulfate. Usually an opiate is administered to patients as part of their preoperative medication, but not infrequently the sedative effect is not sufficient. The addition of 1/8 to 1/6 grain (0.008 to 0.01 gram) of morphine sulfate injected intravenously[6] frequently smooths out an intravenous anesthesia

with sodium ethyl thiobarbiturate and materially decreases the amounts which must be administered. Morphine sulfate is available in ampules of 1 c. c. containing ¼ grain (0.016 gram) of the agent. This preparation is useful for intravenous or intramuscular injection.

It is well recognized that there is a great hazard of fire and explosion in the use of many of the so-called indispensable anesthetics, and during the last year much study has been given to various safeguards and means of prevention of these hazards. It is a fairly well established fact that at least the majority of explosions or fires with such agents as cyclopropane, ether and ethylene have occurred during "closed system" anesthesia and are due to static. Static charges of considerable potential can readily be developed on objects and persons through frictional contacts and movements. Essentially from an electric standpoint, nonconductors in a room constitute the greatest hazards. This is true because they are the best sources of static electricity and because their nonconductivity may prevent the dissipation of charges, which may in turn collect until an opportunity for their dissipation by sparking occurs.

Most flooring materials are nonconductive and are therefore a potential source of static electricity, inasmuch as static collects in objects sliding over them and is retained because the floor acts as an insulator. At the present time a great deal of work is being done in an effort to find materials which are nonconductive and which will generate less static. In addition to utilizing an adequate type of material for flooring, it is very important that other means of preventing a spark discharge be employed by means of electrically intercoupling such objects as might acquire different potentials. In this respect the Horton intercoupler is a device which aims to dissipate and minimize any excessive electrostatic potentials which may accumulate between the anesthetist, the operating table and the gas machine.

Until the proper materials for producing nonconductive floors have been properly tested so that all objects in an operating room can be accurately grounded, we have made every effort to utilize anesthetic agents and methods which will eliminate the possibility of fire and explosion. We have found that by the combined use of various regional procedures such as have been mentioned previously and by the use of spinal anesthesia in conjunction with intravenous anesthesia, we are able to maintain fireproof conditions. The combinations of regional anesthetic procedures, including spinal anesthesia with or without intravenous anesthesia, are not, of course, applicable in all cases, and it becomes necessary in those remaining instances to utilize other agents and methods of anesthesia in order to accomplish a surgical procedure satisfactorily. We have felt, however, that, in cases in which other things were equal, and in which the condition of the patient was suitable for either regional or intravenous anesthesia or a combination of both, they should be used, particularly where there is a definite possibility of a fire or explosion such as might occur when surgical diathermy or cautery is being employed. As an example of how frequently one may utilize intravenous anesthesia in an effort to maintain fireproof conditions in the presence of diathermy or surgical cautery, one can mention the procedure of dilatation and curettage followed by cautery of the cervix. There are relatively few situations where intravenous anesthesia cannot be satisfactorily employed for this procedure, and I feel that it is one of the safest methods for the patient in view of the hazard associated with use of electric apparatus.

SUMMARY

In our experience sodium ethyl thiobarbiturate has proven to be a safe intravenous agent for a great variety of surgical procedures. As we have continued to use this agent, we have been impressed more strongly each year with the fact that sodium ethyl thiobarbiturate must be administered carefully, intermittently, in fractional doses. It must not be given according to body weight or according to surface area of the body. It should be administered in a suitable vein in the arm or hand or ankle and should not be injected into a vein which presents varicosities, because the danger of stasis and pooling is too great. The use of preoperative drugs such as morphine sulfate and sodium ethyl (1-methylbutyl) barbiturate prior to the use of intravenous anesthesia has proven to be valuable and we have found that this premedication usually materially decreases the amount of ethyl thiobarbiturate which is required intravenously. The general usefulness of intravenous anesthesia is being expanded gradually, and it is apparent that the combination of various regional anesthetic procedures with intravenous anesthesia has a definite place for certain surgical operations. It is comforting to

know that the use of regional anesthesia and intravenous anesthesia together presents a method of anesthesia which is safe and eliminates practically all of the hazards of fire and explosion which may be present when such anesthetics as ether, ethylene and cyclopropane are used. Emphasis has been placed on the careful selection of cases and the judicious use of various combinations of regional and intravenous anesthesia.

REFERENCES

1. Lundy, J. S.; and Tuohy, E. B.: Intravenous Anesthesia. Proc. Internat. Assemb. Interstate Postgraduate M.A. North America, pp. 82-86, 1936.
2. Tuohy, E. B.: Intravenous Anesthesia with Pentothal Sodium. Anesth. & Analg., **16**:164-167 (May-June) 1937.
3. Tuohy, E. B.: Anesthetic Procedures Used at the Mayo Clinic. I. General Considerations of Local, Inhalation and Intravenous Anesthetic Agents and Methods and Premedication. Proc. Staff Meeting, Mayo Clinic, **13**:284-287 (May 4); II. For Neurologic Surgery, **13**:377-378 (June 15); III. For Operations on Eye, Ear, Nose, Throat, Thyroid Gland, Larynx and Trachea and for Plastic Operations on the Head and Neck, **13**:510-512 (Aug. 10); IV. For Operations on the Breast, Chest and Abdomen, **13**:570-572 (Sept. 7); V. For Operations on the Extremities and for Anal, Rectal and Perineal Operations, **13**:657-660 (Oct. 19) 1938.
4. Lundy, J. S.: A Technical Description of the Intravenous Administration of Pentothal Sodium Based on Experience in More Than 12,500 Administrations. Jour. Canad. Dental Assn., **5**:589-593 (Nov.) 1939.
5. Tuohy, E. B.; and Thompson, G. J.: Methods of Anesthesia for Transurethral Prostatic Resection and Other Cystoscopic Procedures. Jour. Urol., **42**:642-649 (Oct.) 1939.
6. Betlach, C. J.: The Intravenous Use of Morphine Sulfate for Analgesia. Proc. Staff Meeting, Mayo Clinic, **12**:733-735 (Nov. 17) 1937.

DISCUSSION (*Abstract*)

Dr. S. A. Peoples, Tuscaloosa, Ala.—The most important thing about the recently developed anesthetics is their flexibility. The barbiturates such as pentobarbital and other new agents are so rapidly destroyed in the body that their administration more or less approximates that of inhalation anesthesia.

In the days of iso-amylethyl barbiturate, the duration of action was such that an overdose was very easily given, but the newer anesthetics are approximately like inhalation anesthesia, and as such can supplant the ordinary gases in certain instances.

It is interesting from a pharmacologist's point of view that nitrous oxide 50 per cent is useful and that also morphine is useful with these drugs, because it is well known that the barbiturates have very little analgesic power, and that these two agents, both nitrous oxide and morphine, contribute to analgesia. In the particular dose, that is, 50 per cent with a small dose of morphine, an analgesic effect is the principal action of those two drugs. That is their principal point of usefulness.

The easiest way to avoid explosive mixtures of gases is, of course, not to use a gas at all. It is impossible, no matter what premedication is used, to reduce the concentration of the gas or even to mix things with the gases to reduce their explosive limits, to get the explosive range outside the anesthetic limit, and certainly the intravenous route of anesthesia will eliminate this hazard.

I doubt very much that there will ever be an intravenous anesthetic for premedication or to be used as a basal anesthetic that will enable one to employ gases to give a more flexible type of anesthetic and to avoid explosibility. Every means of avoiding static will be the only safeguard when using explosive gases.

Dr. C. W. Hoeflich, Houston, Tex.—We have a humidity that pretty well protects us from explosion, not that we take advantage of that and are careless in using these gases, because ether is explosive and inflammable itself, North, South, East, West, under the proper conditions. I think that holds true for ethylene and cyclopropane. We never use any of these gadgets or apparatus to prevent explosions.

It was mentioned that we should see that all connections are tight. We take the precautions that we have to take for anything that is inflammable and explosive. Under proper conditions we can work perfectly safely with gas anesthetics. I do not mean that intravenous anesthesia is not good, because it has its place, but like all anesthetics, it is not a one hundred per cent anesthetic agent.

Dr. S. E. Williams, Chippewa Falls, Wis.—I am a general surgeon, and anesthesia is my hobby.

The essayist, Dr. Tuohy, is the son of a schoolmate of mine, and it was a great disappointment to his father when his son, after a splendid medical education, chose this specialty.

Today his father sees it in a different light.

I learned my spinal anesthesia technic from Dr. Lahey. In the last 5,800 cases in his clinic under cyclopropane they have had no explosions, and they use the intercoupler.

Dr. Lahey goes one step further than any anesthetist that I know. No anesthetist and no internist or physician in his operating rooms wears any silk or any wool.

Lundy at Cleveland a month ago brought out the possibility of a static spark in the rubber bag of anesthetic.

Last year I was in the Roosevelt Hospital when something took place that caused the death of a patient, and it was one of the most pathetic things that I have ever seen. The young anesthetist had given some 300 anesthetics. He had been giving cyclopropane, and we had all gone into another room. We were hardly there before we heard an explosion. It was a sad sight. I will never forget it, and I will never use cyclopropane again in my life.

That explosion so impressed the staff of the Walter Reed Hospital at Washington that no cyclopropane has been used there since, and I could name several other hospitals in the East that have followed suit.

The problem has never been solved, as to why the explosion took place. It was thought that the spark came from the two walls of the bag.

Medical students should be taught to use something besides gas machines. It is pathetic to see some of the younger boys who come out of Minnesota, of which I am a graduate as well as Dr. Tuohy. We think we give a fine course there in anesthesia. The students are taught to use gas machines, but when they get out into practice in country towns they have no gas machines. They should be taught to use ether and other agents.

At the present time, in foreign countries, a great deal of chloroform is being used by trained men, just as you men are trained men to use gases.

In 1907, I made a trip to the British Isles with Dr. Will Mayo, and we found four-fifths of the hospitals there using chloroform. Again in 1925 I made a trip to the British Isles with Dr. Charlie Mayo, and they were using chloroform. Two years ago I was there again, and they are still using chloroform. They are doing the same in India and some of the South Sea Islands. They are not having bad results with it.

Chloroform is not nearly so bad as we have been told. In my country the rural physicians use it altogether in their obstetrical work. I have never seen a death from chloroform, but it cannot be poured on like ether. A man who is a good ether anesthetist is a poor chloroform anesthetist.

The best anesthesia of all times has not been mentioned here today. It is continuous spinal anesthesia. Lahey is using it extensively now. Columbia is using continuous spinal anesthesia in a large number of cases. I saw some anesthesia started there at eight o'clock, going through until after one, a continuous spinal anesthesia, and it is beautiful. Lahey says it is the most beautiful anesthesia, the most perfect anesthesia that we have, but it is the most dangerous. Right along with it, they are using at Columbia "pentothal" in the fussy psychic cases to put them to sleep in their beds. They are carried to the operating room under this anesthetic, and there the continuous spinal anesthesia is continued.

The advantage of continuous spinal is that a large initial dose is not needed.

Dr. R. Douglas Sanders, Louisville, Ky.—I should like to ask Dr. Tuohy if he feels that relaxation may be obtained with "pentothal." It has been my impression that this barbiturate does not completely inhibit the spinal reflexes, and when it does so, it is only in the occasional susceptible individual.

Dr. Hoeflich.—I belong to most of the anesthesia societies that have existed, I think, since I started anesthesia, when we started with chloroform. The thing nearest my heart at the different anesthetic meetings has been to bring anesthesia before the surgeons. It has been difficult to persuade the secretaries of medical societies to see our point of view. I helped organize the Texas State Medical Anesthetists, and when we approached the secretary of the state society and asked him to allow our guest speaker to present a paper before the surgeons, you have no idea how many obstacles were put in the way and how many excuses they had.

Dr. Williams objected to teaching anesthetists with gas machines. He mentioned the fact that in the West Indies and in Europe chloroform is used, but it is used by trained men. That holds good for our gas machines. In small towns where young men are giving anesthetics, they can buy a small gas machine and do anything that is needed. I am not condemning chloroform because it has its place, but we feel that it is safer to use a gas.

Dr. Fred F. Rudder, Atlanta, Ga.—About twenty-two months ago, my associate, Dr. T. C. Davison, visited the Carraway Clinic in Birmingham and brought "pentothal" back to Atlanta, and we have used it in all our private cases since that time. In Atlanta it has been given in 3,443 cases. We have been entirely pleased with "pentothal" in general surgery. From the patient's viewpoint, this anesthetic has been a hundred per cent satisfactory. In only one or two cases has it failed to measure up to our expectations. The relaxation, when it is given in sufficient doses, is, from our standpoint, as good as spinal. It should be given by someone who knows how to use it. It should be given intermittently and in small doses. The trend is definitely towards "pentothal" anesthesia in Atlanta.

It was first used at the Georgia Baptist Hospital and its use has gradually spread to other hospitals. At the Georgia Baptist at the present time approximately 50 per cent of all major surgery is done with "pentothal."

Dr. A. L. Schwartz, Cincinnati, Ohio.—In the discussion of intravenous anesthesia and the use of "pentothal," I should like to ask what effort is made beforehand to establish the possibility of hypersensitivity to the barbiturates, for we know that a certain number of individuals will respond adversely to even minute doses of a barbiturate. I should like to know whether any provision is made for such testing.

Dr. Merrill C. Beck, New Orleans, La.—Dr. Tuohy said that at times patients take much more "pentothal" than you might expect. I had two cases that took what I thought was a large amount of "pentothal." One was a man who had had several anesthetics, about 35, I believe. He had a carcinoma of the face and had had to have a lot of burning with a cautery. At one time I gave him two and a half grams in twenty-five minutes to keep him anesthetized. He slept two hours and made an uneventful recovery.

Another was a little girl of nine who had several moles about her body. It took about thirty minutes for the doctor to burn these off, and I gave her one and a half grams in an hour. She slept for twenty-four hours. Since then we have not given "pentothal" to children under twelve.

The Section on Anesthesia is relatively new here in the Southern Medical Association. This is the fourth meeting that we have had. The first was a half-day session with an attendance of about twenty people. We have worked up to two half-days or a full day's session, and you see what the attendance is now, a good bit more than twenty. We have tried to include surgeons on the program and to have some surgeons discuss our papers. The largest attendance we have had was when we had a paper on obstetrical analgesia. We had not enough chairs for all of the audience; but as soon as that paper was over, most of the people left.

Our group teaches at Tulane and L. S. U. in New Orleans, and we feel that it is not a good idea to teach a student with a gas machine. They are all taught with drip ether. The signs and stages of anesthesia are shown much better with drip ether than with any other agent. Gas anesthesia and spinal are demonstrated to the students, but they actually give the drip ether and are taught the signs and symptoms with that anesthetic.

We have not been bothered with explosions in New Orleans. I estimate that at a minimum we have given 20,000 cyclopropane anesthetics. We have been using it since 1934, and since 1935 it has been almost routinely used. We take no precautions whatsoever. Our humidity is always above 80 per cent outside and in the operating room about 65 per cent. I do not feel that the humidity in the operating room has much to do with the factor of explosibility. I think it is what it is outside. A spark will jump from one body of high potential to another of low potential in a 100 per cent humidity. You all know that your automobile runs better at night when it is damp, and it is the charge that is produced. In other words, if your clothes are dry it will take quite

a while after you enter the operating room to become saturated with moisture or to become of the same humidity as the room. You may be there an hour before you get to that humidity.

Dr. Tuohy (closing).—I have witnessed one explosion with cyclopropane which fortunately had no serious consequences. It occurred using a continuous flow type of gas machine while surgical diathermy was being employed for fulguration of a small keratoma on the neck or face. Intratracheal anesthesia was also being used and the explosion which occurred was in the tubing leading to the gas machine from the intratracheal tube. The patient in this particular instance suffered no untoward effects.

We are using continuous spinal anesthesia in our various hospitals. Up to the present time we are favorably impressed with it and I think that it has a very definite place for certain types of surgery. It is particularly indicated in ventral hernias, bilateral inguinal hernias and for certain other abdominal explorations. So far in our experience we have found that one must administer in the average case 110 to 125 mg. of procaine as the initial dose. The additional doses subsequent to the initial dose in most individuals will be between 50 and 65 mg. The time interval elapsing between the administration of the original and any additional dose will vary with individuals, but, roughly speaking, in most instances the additional dose will be administered approximately 30 to 40 minutes after the initial dose.

In most individuals the muscular relaxation of the abdomen under "pentothal" anesthesia, at least for most surgeons, is not sufficient. A combination, however, of regional block of the abdominal wall and "pentothal" will frequently permit sufficient relaxation for a laparotomy.

Dr. Schwartz has mentioned the fact that certain individuals present hypersensitivity or idiosyncrasy to barbiturates. I concur with his suggestion in so far as various individuals will respond differently to a given dose of a barbiturate such as pentobarbital sodium. One individual who has taken 1.5 grains of pentobarbital sodium will be very sleepy whereas another will show very little if any pharmacologic effect. If intravenous anesthesia is to be used, one should exercise considerable care in its administration if the patient shows a profound effect from a so-called routine dose of a barbiturate given for premedication. Occasional hypersensitivity to a barbiturate may be manifested by dermatitis with possible bullous eruptions.

I agree with Dr. Beck, who has cited two particular cases where he had administered 2.5 grams of "pentothal" to these individual patients within 25 minutes. I have seen this situation occur on several occasions. Certain criticisms have been directed at "pentothal" on this particular score because some individuals felt that they could not produce adequate surgical anesthesia because the patients were apparently consuming very large dosages and they were not willing to continue with this type of anesthesia. Fortunately most people do not require this amount of the agent, especially if adequate premedication has been given and, furthermore, as I emphasized in my paper, if one will use morphine sulfate intravenously synchronously with the administration of "pentothal," this additional amount of morphine sulfate will usually materially decrease the amount of "pentothal" which will be subsequently required.

I am also in accord with Dr. Beck's observation on the use of "pentothal" in children. I believe it is safer to use other anesthetics for children under ten years of age, with the possible exception of specific cases where "pentothal" is the anesthetic of choice and one has an individual thoroughly skilled in the administration of intravenous anesthesia.

INTERRELATION BETWEEN THE VITAMIN B COMPLEX AND THE ANTERIOR LOBE OF THE PITUITARY GLAND*

By DON C. SUTTON, M.S., M.D.
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There are many trends in the study of the vitamins. The principles of these are:

(1) The isolation of the individual vitamins and their synthesis.

(2) The physiologic action of the individual vitamins in the body.

Much of the study of the physiologic effects is the observation of functional and tissue changes resulting from deficiency of separate vitamins. There are relatively few observations on the functional and tissue changes in the glands of internal secretion. In so far as we know, there are no observations on the relation of the hormones of the anterior lobe of the pituitary gland to the utilization of the vitamin B complex. Vitamin B is unique in that the present concept of the vitamins is the result of studies of the beriberi factor by a group of Dutch investigators working in the Dutch East Indies.[1]

Goldberger and Tanner[2] found that pellagra is due to a specific dietary deficiency and suggested the term pellagra-preventing, or "P. P." factor. Further study has shown that vitamin B is really a complex mixture of many individual vitamins and is now termed the vitamin B complex. At least 12 of these individual factors of the vitamin B complex are known to be important in the nutrition of animals. Of these only a few are known, or believed to be, necessary in the nutrition of man.

Thiamin, vitamin B, prevents beriberi in man and polyneuritis in animals.

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*Read in Section on Medicine, Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, Kentucky, November 12-15, 1940.

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Nicotinic acid prevents the skin and mucous membrane lesions of pellagra and is probably the P. P. factor of Goldberger.

Riboflavin is essential in the utilization of sugars.

Pantothenic acid has not yet been definitely shown to be essential.

Vitamin-deficiency states may be the result of:

(A) Inadequate intake of specific vitamins.

(B) Disturbances of utilization.

(1) Loss in the gastro-intestinal tract (vomiting or diarrhea).

(2) Inhibition of absorption (gastro-intestinal disease).

(3) Inhibition by infection or other disease.

(4) High individual requirements.

(5) High individual requirements due to disease.

(6) Lack of an accessory factor (as Castle's gastric factor in pernicious anemia).

Theoretically, the replacement of the individual vitamin which is lacking should cause recovery from the symptoms caused by that vitamin's lack. Unfortunately this is not true. This is shown by the failure of many cases of alcoholic polyneuritis to respond to the administration of thiamin. Also some cases of pellagra do not respond to the administration of nicotinic acid alone. In such cases the parenteral administration of liver extract results in prompt recovery. Such discrepancies in the theoretical action may be due to multiple deficiencies or to an essential interrelation between various factors of the vitamin B complex.

We believe that this interrelation is essential between the factors of the vitamin B complex. In view of our observation that the utilization of vitamin C is enhanced by the administration of liver extract, this synergistic action appears to be true of other vitamins.

Study of the following case first called our attention to the possible necessity of the hormones of the anterior lobe of the pituitary gland in the utilization of the vitamin B complex.[3 4 5]

L. W., a 64-year-old white laborer, entered Cook County Hospital on December 26, 1937.

His immediate complaints were diarrhea, loss of weight, and edema of the feet. He was irritable and after a few days left the hospital, returning January 27, 1938, with the same complaints. He stated that a gastro-enterostomy had been done in 1915, although no evidence of such an operation could be found by either direct gastroscopy or x-rays of the stomach.

The edema of the feet had been present at various times during the preceding three years, and recently he had been treated at a dispensary for a cardiac condition. The remainder of the history was irrelevant.

At entrance the physical examination revealed an emaciated, weak, but not acutely ill patient. His temperature was 98.2° F., pulse 48, respirations 9 per minute, and blood pressure 126/80. An acute glossitis was noted. Examination of the chest and abdomen was negative. A gastroscopic examination revealed a reddened mucosa with a few erosions. The proctoscopic examination showed a reddened mucosa. The spinal and blood Wassermann tests were negative. The basal metabolic rate was —34. The blood chemistry showed a total nonprotein nitrogen 25; urea 15.41; uric acid 2.5; cholesterol 160; sugar 86; total proteins 6.83; albumin 4.37; globulin 2.46; and ratio 1.77. There was a complete achlorhydria after an Ewald meal.

The diarrhea persisted, with five to twelve stools daily. The feces were yellow, watery, with a low specific gravity, and contained no blood. No parasites were found.

Neither the glossitis nor the diarrhea was improved by large doses of nicotinic acid, parenteral administration of liver extract and an adequate diet. He was also treated with thyroid extract and insulin.

He lost weight (from a normal of 180 pounds to 89 pounds) and became helpless from weakness.

On October 19, 1938, daily intramuscular injections of an extract of the anterior lobe of the pituitary gland were begun on a suspected diagnosis of a pituitary cachexia.

Shortly after beginning the administration of the extract of the anterior lobe of the pituitary gland, the diarrhea improved, the glossitis disappeared, and after thirty days a gain in weight and strength was apparent. By May, 1939, six months later, he weighed 167 pounds and his basal metabolic rate was —10. The pituitary extract was discontinued in May, 1939. He continued well until October 15, 1939. After a recurrence of the diarrhea and a loss of 9 pounds, 1 c. c. of the gonadotropic hormone of the pituitary gland was given intramuscularly for thirty days. The diarrhea and weight loss were promptly relieved. The gonadotropic hormone was discontinued because of the belief that it is impossible to procure an extract free of the other hormones. He continued well until April, 1940, when the diarrhea returned and later a severe glossitis.

He was allowed to lose 13 pounds, after which 1 c. c. of the extract of the anterior lobe of the pituitary gland was injected daily. Within 48 hours the diarrhea ceased, and the tongue was no longer painful. The redness disappeared in three days.

By June 28, 1940, without treatment, he had lost 20 pounds and a severe glossitis had returned. For the first time he also developed a psychosis. He was treated with the gonadotropic hormone until August 15, 1940, with some general improvement and complete recovery from his psychosis.

Following the administration of an extract of the anterior lobe of the pituitary gland, he again completely recovered.

The prompt recovery of the glossitis and diarrhea in this case suggested the treatment of pellagra with this extract.

C. N., a white male laborer, aged 49 years, entered the Cook County Hospital on August 29, 1939.

His immediate complaints were epigastric pain for the past year, loss of appetite for six months, and a loss of 50 pounds during the previous year.

The epigastric pain had no relation to meals, although he occasionally vomited about one hour after a meal. He had a diarrhea of four to five liquid stools daily.

The essential physical findings were emaciation, a severe glossitis (a red beefy tongue), and a sore, reddened pharynx.

The results of laboratory examinations showed that the urine contained a two-plus sugar and a three-plus albumin. An Ewald meal revealed an achlorhydria. No parasites nor blood were found in the feces.

A glucose tolerance test showed fasting glucose 106; at 9:00 a. m., 272; 10:00 a. m., 200; 11:00 a. m., 158.

The blood examination revealed hemoglobin 10 gm.; red blood cells, 3,590,000; white blood cells, 4,800; total nonprotein nitrogen, 23; cholesterol, 135; cholesterol esters, 36; and phosphatase, 7.38. The Kahn reaction was negative. The basal metabolic rate was —11.

X-ray of the gastro-intestinal tract revealed no abnormality. A gastroscopic examination revealed a red and swollen mucosa.

On September 13, 1939, an erythematous eruption was observed on the face and in the groin. There was also maceration of the scrotum and the thighs. At this time 600 mg. of nicotinic acid daily, dilute hydrochloric acid and insulin for the diabetes were instituted. The skin and mouth lesions showed no improvement, and on October 17, 1939, the patient was referred to the outpatient diabetic and skin clinics.

He re-entered the hospital on December 12, 1939, with typical pellagra lesions of the tongue, face, cracked scaling lesions of the lips, and corners of the mouth, symmetrical eruptions on the elbows, hands and feet, and the groin and perianal regions. The diarrhea had become much worse. He was given 800 mg. of nicotinic acid on entrance and then 400 mg. daily until January 30, 1940. Ninety-nine milligrams of riboflavin daily were given for one week. In the meantime a positive x-ray and gastroscopic diagnosis of carcinoma of the stomach were made and all treatment was stopped.

On February 13, 1940, he was referred to our service for a trial of the extract of the anterior lobe of the pituitary gland. On this date the lesions were as described on December 12, 1940, and, in addition, a severe excoriation of the scrotum was found.

The diarrhea stopped after 8 c. c. of extract of the anterior lobe of the pituitary gland was injected intramuscularly in daily doses of 2 c. c. At this time the patient was completely bedridden. In fourteen days he was able to walk. The scrotal, perianal and hand and feet lesions cleared completely. The scaling of the face disappeared, but the lesions at the angles of the mouth improved about 80 per cent and the tongue about 65 per cent. The cessation of extract of the anterior lobe of the pituitary gland for two to three days caused the prompt reappearance of diarrhea, glossitis and lip lesions and the anal-scrotal and perineal lesions a few days later. One cubic centimeter of extract of the anterior lobe of the pituitary gland will stop the diarrhea in twenty-four hours.

He had no evidence of diabetes after one month of treatment. Although he was not entirely relieved, the fully 80 per cent improvement added greatly to his comfort.

This patient died of generalized carcinomatosis in September, 1940.

Sebrell and Butler[6] have described maceration and fissuring at the angles of the mouth and greasy, seborrheic accumulations about the alae nasae as the lesion induced in man by riboflavin deficiency.

While the following case had a mild glossitis, the riboflavin deficiency predominated.

Mrs. T., aged 44 years, a white waitress, was first seen in the Northwestern University hematology clinic by Drs. Howard Alt and Richard Young on December 6, 1937.

Her complaint at that time was a diffuse swelling of the right parotid gland, redness and soreness of the mouth and tongue, and painful fissures at the angles of the mouth. She had complained of vomiting and belching of gas for fifteen years prior to her admission to the clinic. In 1927 she was examined at the Mayo Clinic.

No organic disease was found and it was then suggested that she had a vitamin deficiency.

Until November, 1939, she was treated for a secondary anemia and a vitamin deficiency. Iron, yeast, meat, oranges and grapefruit were added to a supposed liberal diet, but her low income prevented her strict adherence to it. From November 21, 1939, 5 mg. of riboflavin and 300 mg. of nicotinic acid daily were also given. On January 6, 1940, the nicotinic acid was increased to 900 mg. daily for two weeks. From March 6 to March 16, 1940, 20 gm. daily of ventriculin were given. On March 16, 1940, she was referred to us. At that time her tongue was red and painful. She had painful cracks at the corners of her mouth, with scaling of the skin at the lip borders. These lesions had not completely healed in three years.

She was given 2 c. c. of an extract of the anterior lobe of the pituitary gland daily. At the end of five days the mouth was entirely healed and the tongue was less red and painful. She continued well with 10 c. c. of extract of the anterior lobe of the pituitary gland weekly until a week before her menses, when the angles of her mouth once more became sore and cracked, and her tongue became red and painful. The injections were continued and after menstruation ceased, the lesions promptly disappeared.

With the next menses the angles of the mouth became painful, but did not crack. The condition disappeared before the menses were completed, and the menses became less painful during treatment. May 10, 1940, she was entirely well.

She has since relapsed and is now under treatment.

Mrs. R., a well-to-do married woman, 40 years of age, has suffered from an obsessional neurosis for a number of years. She was first seen three years ago, when she complained of fatigue and edema of the legs.

Examination was entirely negative except for a definite edema of the legs not related to exercise.

Her basal metabolic rate was —15. At that time she was thought to have a pituitary deficiency and the

edema was so explained. She was seen only the one time until June of this year.

She now had typical pellagra lesions on the neck, forearms, and legs. There was no glossitis. She weighed 170 pounds. Physical and laboratory examinations were negative. Her diet was a well-balanced one.

Without change in her diet or habits, she was given an extract of the anterior lobe of the pituitary gland. The lesions were entirely healed within two weeks and she had continued without symptoms to date.

C. F., a Chinese male, 54 years old, entered the Cook County Hospital with moderate cardiac decompensation, due to an aortic stenosis of rheumatic origin.

He showed no other significant findings, except a symmetrical dry scaling eruption on the backs of the hands, the buttocks, and the thighs. These lesions were diagnosed as pellagra. He was treated for his cardiac condition, but kept on a vitamin-poor diet for ten days. At the suggestion of Dr. Dunbar he was given 1,000 c. c. of glucose intravenously on March 20. The next day all the lesions were acutely inflamed and painful, and the backs of his hands were cracked and exuded serum.

He was continued on the low vitamin diet and given 2 c. c. of an extract of the anterior lobe of the pituitary daily. Improvement was prompt, and on May 9 all evidence of scaling was gone.

J. B., a white male, 38 years of age, entered the hospital with an extremely painful alcoholic polyneuritis of the arms and legs. There was also extensor weakness of the hands and feet.

He was given no other treatment than a full diet and no alcohol for eight weeks without improvement. He was then given extract of the anterior lobe of the pituitary gland. Within one week the pain had disappeared and after one month he left the hospital entirely recovered.

The results of treatment of these cases with an extract of the anterior lobe of the pituitary gland suggests that either a hormone or hormones of the anterior lobe are essential to the utilization of the vitamin B complex or that they may actually replace them.

The extract* used is one prepared according to the method of Collip, which contains all the hormones of the anterior lobe of the pituitary gland. This extract does not contain appreciable amounts of the vitamin B complex.

There are a large number of hormones secreted by the anterior lobe, the more important being the growth, gonadotropic, thyrotropic and adrenotropic hormones. The growth and gonadotropic hormones have been almost as efficient as the whole extract in the treatment of these cases.

Marburg and Wenchebach[7] observed necrotic areas in the anterior lobe of the pituitary glands of patients dying from beriberi.

*The extract of the anterior lobe of the pituitary gland used in this work was "polyansyn" of Armour & Co.

Burke and McIntyre[8] found that rats on a thiamin-deficient diet did not lose weight as rapidly when given a growth-promoting extract of the pituitary as did those who did not receive the extract; they concluded that the growth-promoting hormone modifies the utilization of thiamin.

Brenneman[9] found that when day-old chicks were fed a standard diet only on alternate days growth was retarded to about 50 per cent of that of normal controls fed the same diet every day. The testes were lighter in the starved chicks. Male hormone limited the growth of the testes of the control chicks, but not of the starved chicks. This observation is interpreted as evidence of decreased production of the gonadotropic hormone. This is further suggested by the fact that injection of an extract of the anterior lobe of the pituitary gland produces greater growth of the testes and combs in the starved chicks than in normal controls.

Sommer[10] found that women who had passed through puberty during the starvation caused by the blockade of Germany during 1914 to 1918 showed a high incidence of abortions and stillbirths. Delayed menstruation, amenorrhea, infantilism and sterility were common. Corpus luteum hormones failed to cause improvement. Prolan benefited many cases. Greatly diminished lactation was common and was greatly improved by the use of lactogenic hormone. From these observations he concluded that the lactogenic and gonadotropic hormones of the pituitary gland were diminished by starvation.

Hundhausen[11] found that deprivation of vitamin B_1 caused a decrease in the thyrotropic and gonadotropic hormones in rats.

From this experimental work it appears that vitamin deficiency or partial starvation may cause a decrease of the hormones of the anterior lobe of the pituitary.

From our observations and the experimental evidence, it appears there is a close relationship between the anterior lobe of the pituitary gland and the utilization of the vitamin B complex.

The most puzzling observation is the recovery of cases treated with the extract of the anterior lobe while the patient is on a deficient diet. This may be due to utilization of stores of the vitamin which could not be used without the assistance of sufficient hormone.

Our observation that the symptoms of pellagra become worse just before and during menstruation suggest either a depression of pituitary

hormones or an actual effect of the ovarian hormones upon the utilization of vitamin B.

The effects of the extract of the anterior lobe observed in patients other than recovery or improvement of visible lesions have been:

The basal metabolic rate in the first case was increased from —34 to —10.

A return of gastric acidity in four pellagrins who had had an achylia with histamine has been observed.

Studies of the blood chemistry, namely: total nonprotein nitrogen, urea, creatinin, uric acid, total proteins, albumin, serum globulin and sugar with study of total urinary nitrogen showed an apparently significant decrease of blood urea.

SUMMARY

Although these cases have improved or recovered when given an extract of the anterior lobe of the pituitary gland, they will relapse at variable periods after its administration is stopped. The extract will cause the disappearance of the symptoms and findings of alcoholic polyneuritis, pellagra and cheiliosis even without an adequate intake of vitamin B complex.

The extract will cause the return of acid in some cases of pellagra with an achylia.

The gonadotropic and growth hormones are almost as effective as the whole extract.

Menstruation causes an exacerbation of the symptoms of pellagra.

CONCLUSIONS

(1) Evidence is presented that an extract of the anterior lobe of the pituitary gland will cause recovery of pellagra lesions when they have failed to respond to nicotinic acid, riboflavin, parenteral liver and adequate diet.

(2) It is suggested that the hormones or a hormone of the anterior lobe of the pituitary gland are essential to the utilization of the vitamin B complex.

(3) It is not intended to suggest extract of the anterior lobe of the pituitary gland as a routine treatment of the vitamin B complex deficiencies.

This work has been done with my associate, John Ashworth, M.D., and others on my service at the Cook County Hospital.

REFERENCES

1. Eijkman, Christiaan: Eine Beri-Beri Ahnlich Krankheit der Huhner. Virchows Arch. f. path. Anat., **148**:523-532 (June) 1897.
2. Goldberger, Joseph; and Tanner, W. F.: A Study of the Pellagra Preventive Action of Dried Beans, Casein, Dried Milk and Brewer's Yeast with a Consideration of the Essential Preventive Factors Involved. Pub. Health Rep., **40**: 58-80 (Jan.) 1925.
3. Sutton, Don C.; and Ashworth, John: Cachexia Responding to Extract of the Anterior Lobe of the Pituitary Gland. Jour. Lab. & Clin. Med., **25**:848, 1940.
4. Sutton, Don C.; and Ashworth, John: The Interrelation Between the Vitamin B Complex and the Anterior Lobe of the Pituitary Gland. Jour. Lab. & Clin. Med., **25**:1188-1192 (Aug.) 1940.
5. Sutton, Don C.; and Ashworth, John: Sec. IV, Chap. XVII, Clinical Pellagra by Seale Harris. St. Louis: C. V. Mosby, 1940.
6. Sebrell, W. H.; and Butler, R. E.: Riboflavin Deficiency in Man: Preliminary Note. Pub. Health Rep., **52**:2282-84, 1938.
7. Marburg, O.: Uber Veranderungen der Hypophyse bei Beriberi (Ein Beitrag zur Kenntnis der basophilen Hypophysen-Zellen). Wien. Arch. f. inn. Med., **29**:1, 1936. Quoted by Van Dyke: Physiology and Pharmacology of the Pituitary Gland. Chicago: University of Chicago Press, 1939.
8. Burke, J. C.; and McIntyre, A. R.: Growth Promoting Pituitary Extract in Thiamin Deficiency. Proc. of the 32nd Annual Meeting of the Amer. Soc. of Biol. Chem., March 30 to April 2, 1938.
9. Brenneman, W. R.: Limitation of Food Consumption as a Factor Influencing Endocrine Reactions in the Chick. Waterman Institute and Zoology Dept., University of Indiana. Personal communication.
10. Sommer, K.: Hormonale Unterfunktion als Hungerfolge. Arch. f. Gyn k., **166**:204, 1938.
11. Hundhausen, Gerhart: Uber die Beziehungen zwischen Avitaminose-B1 and Gonadotropen Hormon des hypophysenvorderlappens. Arch. f. exper. Path. u. Pharmakol., **192**:670, 1939.

HEPATIC DISEASE: CLINICAL ASPECTS*

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INTRODUCTION

A study of case records for about twenty-five years shows a rather clear line of demarcation at about the middle of this period. Previous to this, medical management of liver and biliary tract disease was mostly empirical, and attended by varying, if not entirely unsatisfactory, results. During the latter half of this period, however, and with the advent of newer knowledge of the function of the liver, and of the manufacture, storage and distribution of bile, glucose and later the vitamins, the treatment of such conditions has been based on scientific principles, and the results obtained have been satisfactory, and in many instances amazingly successful.

A careful review of a very extensive literature has brought to light many interesting, if not actually astonishing facts, which prompt the asking of several questions which will serve as an introduction to this discussion. Did you know that:

(1) There are certain diseases of the liver in

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which the use of glucose intravenously is without good effect, or is actually harmful?

(2) Under certain conditions, the use of bile, or its components, is without value, or may be actually harmful?

(3) Vitamins A and D and probably other fat soluble vitamins are almost, if not entirely, as valuable in controlling the bleeding tendency as is vitamin K?

(4) Substances rich in vitamin D are capable of changing a prolonged clotting time in many conditions in a period of four hours' time?

(5) The success or failure of the treatment of patients who have seriously damaged livers depends largely on their ability to take a well balanced diet over long periods of time?

(6) A high carbohydrate diet intake has a specific protective effect against hepatic necrosis?

(7) Fifty per cent of all postoperative deaths in patients with jaundice or liver insufficiency are associated with, or the result of, hemorrhage?

(8) Large quantities of mineral oil in rats will produce a marked bleeding tendency, with prolonged coagulation and prothrombin time due to washing out of vitamin A?[1]

It is most important and interesting to note to what extent a disturbance of one or many of the numerous functions of the liver involves, sometimes quite vitally, the secretion of bile and its components and the manufacture and storage of glycogen and vitamins, as well as their distribution. There are few, if any, diseases to which humanity is heir in which at some time during their course there is not need for glucose, vitamins and bile in some form beyond their normal requirements in the therapeutic program. Of the many diseases, one has only to mention pernicious anemia, pellagra, sprue, beriberi, jaundice and the hemorrhagic tendency, to say nothing of tuberculosis, chronic gastrointestinal disturbance, heart disease, skin disease, blood dyscrasias, arthritis, disease of the nervous and muscular systems, and many others. It is not too much to wonder whether, if and when the explanation is found for many diseases of unknown etiology, it will largely concern those functions of the liver having to do with the metabolism of bile, carbohydrates and vitamins. It is furthermore quite certain that with employment of our newer knowledge of therapeutic procedures which will correct early disturbances of liver function, less surgery of the biliary tract will be necessary.

I shall limit my remarks to the chronic and degenerative processes involving the parenchyma of the liver and not discuss the fundamental lesions which are associated with or followed by practically all types of hepatic injury. Since the therapeutic requirements for jaundice and the hemorrhagic tendency are essentially the same for all degrees of liver disease except in a varying degree, these will be stressed particularly.

It would seem, therefore, that the new and increasing knowledge of the pathologic physiology of the liver necessitates a revision of our conception of the proper diagnosis, the treatment and even the prognosis in diseases of the liver. It seems fairly well established that the protection of liver function and the treatment of parenchymatous injury depend very largely upon the use of proper food, glucose, vitamins and bile salts, and in emergencies transfusions of whole blood, plasma and occasionally ascitic fluid or solutions of acacia.

Glucose.—That the liver converts glucose, levulose and galactose to glycogen, which it stores and reconverts to glucose when needed, is well known. It also maintains blood sugar levels and forms glucose from certain amino-acids. It is an interesting fact that the feeding of dextrose to fasting animals decreases the output of bile from 20 to 30 per cent, and if dextrose is added to the diet there is no change in the secretion of bile, but if the liver secretion is stimulated by giving bile, and dextrose is then injected intravenously, the secretion of bile is increased.[2] An inadequate supply of carbohydrates reduces the concentration of cholates in the bile, presumably as a result of a functional disturbance.[3]

How many surgeons, and clinicians as well, use large quantities of glucose intravenously in cholecystectomized patients? I plead guilty, but actually the intravenous injection of 50 per cent glucose depresses the flow of bile. This is due to the large amount of glucose injected, with consequent overloading of the glycogenic function of the liver, and not to the concentration of glucose itself, because the use of non-metabolizable sugar brings about no such depression.[4] There seems to be a reciprocal relation between the glycogenic and bile secretory functions of the liver, and large amounts of glucose intravenously should be used with caution in liver disease and where there is an already altered

biliary function, and also in cases where it is desirable to maintain postoperative secretion.

Neither the water content nor the osmotic pressure of intravenous solutions ordinarily used in practice, nor the presence of an electrolyte such as an isotonic saline affects the secretion or the flow of bile.[4] High carbohydrate diets have come into rather general use in hepatic disease because their oxidation makes less demand on the liver than the oxidation of either fat or protein, and they are of great aid in putting the liver in a state of physiologic rest.[5] Animals with adequate reserves of glycogen from the administration of high carbohydrate diets are more resistant to the effects of hepatic toxins such as chloroform, but not so much as those animals on high protein diets.[6] There is increasing evidence pointing to a disturbance in protein metabolism in hepatic disease.[7] Apart from prothrombin deficiency, it has been definitely determined that there are changes in the serum protein, with hypoproteinemia, accompanying serious diseases of the liver and especially when ascites is present. This would indicate the importance of protein-rich diets for patients with hepatic disease.[5] This is contrary, however, to experimental work done long ago pointing out the susceptibility of the dog with damaged liver (Eck fistula) to the feeding of excessive amounts of meat, producing the so-called "Fleisch intoxication." These observations were later confirmed by Mann and Bollman. They also found that the feeding of meat extract produced the same effect as meat. It is significant, however, that in much of the experimental work casein has been used to provide the increased quantity of protein in the diets. Certainly until more work contrasting the effects of meat with purified casein in the diet is reported, it would seem advisable to increase the protein content of the diet for patients with hepatic disease by choosing dairy proteins in preference to meat.[5]

Vitamins.—Dam, in 1934[8] and 1935,[9] produced the bleeding tendency with intramuscular, subcutaneous and internal hemorrhages in chicks reared on an artificial diet, deficient in certain fat-soluble compounds, but adequate in other antihemorrhagic elements. The bleeding was promptly cured by feeding the chicks a substance found in the unsaponifiable, non-sterol fractions of hog liver fat, and in alfalfa. This substance he described as "Koagulations Vitamin" or vitamin K.[10] Then in 1936 Hawkins and Brinkhaus,[11] studying the hemorrhage induced by complete biliary fistula in dogs, were able to correct the prothrombin deficiency which they noted by the feeding of bile. While the hemorrhagic tendency of jaundice previous to this was supposed to be due to calcium deficiency and the presence of certain anticoagulants in the blood, it remained for Quick[12] in 1937 to prove that these theories were incorrect and that the deficiency was probably of the prothrombin of the blood, since all other elements necessary for coagulation were present in normal quantities. This work has been abundantly corroborated.

The liver is known to be instrumental in the formation or storage of the anti-pernicious anemia factor and the secondary anemia factor for building hemoglobin, vitamin A, B_1, the B_2 complex, C, D and K. Any injury, therefore, to its parenchyma must in all probability considerably disturb these functions.[13] It should be mentioned also that the liver manufactures blood fibrinogen and herapin (antiprothrombin), and that red blood cells are formed in embryo. While I desire to discuss particularly the fat-soluble vitamins, there is experimental as well as clinical evidence to indicate the dangers in diabetes, and of high carbohydrate diets and glucose medication over long periods of time. These conditions cause a marked and often severe depression of the manufacture and distribution of vitamin B_1, of which latter substance the system under normal conditions is always near its minimal requirements. Therefore, under these conditions thiamin chloride should be administered in adequate quantities by mouth. In conditions which direct bile from the intestinal tract (biliary fistula, obstruction of the common duct), vitamins should be administered by injection when possible.[13]

Our chief interest in the fat-soluble vitamin K as previously pointed out and also in vitamins A and D, concerns the necessity of adequate quantities of bile in the intestine for their absorption and also their value in the correction of the abnormal bleeding and clotting time that is present in the hemorrhagic tendency of jaundice. The liver produces prothrombin, but only when there is an adequate supply of vitamin K and probably also the less investigated vitamins A and D. Therefore, when the blood examination reveals a low prothrombin level, it is to be assumed first that there is a deficiency of vitamin K (and probably other fat-soluble vitamins) in the diet; or second, although the quantity of vitamin K in the diet is adequate, it is

not absorbed from the intestine because of a deficiency of bile, or of disease of the intestinal mucosa that normally is necessary for absorption; and third, because the liver may be so damaged that even in the presence of a sufficient quantity of vitamin K and with sufficient bile to insure normal absorption, its utilization is prevented.[14] Since vitamin K is widely distributed in foods and is promptly synthesized by a great variety of bacteria, including B. coli in the ileum and jejunum, the question of deficiency in the human diet can probably be ignored.[14] Its employment for prophylactic purposes, therefore, does not seem necessary, and in hepatic injury of such extent that the utilization of vitamin K is prevented, such as occurs in advanced cirrhosis, any form of therapeutics is probably without benefit.[14]

We are concerned chiefly, therefore, with its failure of absorption from the intestine due to the absence of an adequate quantity of bile. It should be remembered, however, that other diseases such as sprue, chronic ulcerative colitis, intestinal fistula, postoperative gastric retention and intestinal obstruction,[15] may alter prothrombin metabolism and thus induce the hemorrhagic tendency. Such conditions should include as part of their treatment the use of the fat-soluble vitamins, particularly K. The danger of continuous duodenal drainage which would influence absorption of vitamin K is evident.[15]

Vitamins A and D and perhaps other fat-soluble substances also require the presence of bile for their absorption, and probably also influence the blood prothrombin level, but they have received more attention because of their influence on the coagulation and bleeding time, under which conditions they are administered in preference to vitamin K. They are probably related to at least three of the factors which may influence bleeding, namely: calcium deficiency, a decrease in the number of thrombocytes, and capillary resistance.[14] It is an interesting observation that vitamin A, as in cod liver oil, and vitamin D as viosterol will restore the normal coagulation time of the blood in a period of four to six hours,[16] and in hepatic deficiency with jaundice and prolonged bleeding time it is corrected in four to seven days, except where the liver is so severely damaged that the vitamins are not utilized.[17]

While the bleeding tendency has been found absent in blood prothrombin levels as low as 10 per cent of the normal,[18] on the other hand, bleeding from mucous membranes and at operation has been reported with prothrombin levels of 50 per cent of the normal.[19] It seems advisable, therefore, to consider a blood prothrombin level of from 40 to 60 per cent of normal as suggestive at least of the bleeding tendency, and indicating the wisdom of administering some of the fat-soluble vitamins, and certainly with bile salts if jaundice is present. If the administration of vitamins K, A and D, with bile when necessary, does not increase the blood prothrombin level nor decrease the bleeding time, particularly in cirrhosis or hepatic disease with jaundice and hemorrhage, it would connote a serious prognosis, indicating little or no hepatic reserve. It would seem clinically worth-while, therefore, to administer vitamin K with bile in the treatment of jaundice with the hemorrhagic tendency, or due to biliary tract obstruction with resulting hepatic injury. If the condition is advanced and an emergency exists, this may be given by stomach tube or parenterally. In the preparation for operation of patients with prolonged clotting or bleeding time, and those with long-standing gastro-intestinal disturbance, acute infections, blood dyscrasias or syphilis, the administration of vitamins A and D should prove of definite benefit. If, however, an emergency exists, and the concentration of prothrombin in the blood is below 20 per cent, then transfusion of blood is imperative.[18]

Bile.—For many years some form of bile has been used unintelligently, injudiciously, and often entirely uselessly, if not with actual danger, in conditions where disorder of the liver was suspected. We have considered the importance of bile in the intestine as a requirement for the absorption of the fat-soluble vitamins. Other functions of bile salts are to promote the formation and increase the volume of bile and the output of cholesterol; to prevent the precipitation of cholesterol and fatty acids in the gallbladder; to aid in the digestion and absorption of fats; to detoxify bacterial toxins in the intestinal tract; and to effect the storage of glycogen in the liver.[5] It is important, therefore, that one know what foods, drugs or other agents may influence the production and flow of bile.

Next to the administration of bile itself, meat alone or in a mixed diet is the most potent stimulant. Olive oil increases the quantity of bile only when given in the fasting state.[2] The lack of effect from the administration of glucose has already been discussed. Systemic infections, fever, cholangitis, depletion of bile salts from prolonged drainage and other conditions reduce the

concentration of cholates as a result of functional disturbance, but the continuous failure of the liver to secrete bile acids may be of serious prognostic import.[3]

If one takes the time to listen to the virtues of the many bile preparations that are exploited by various pharmaceutical houses, he must at times become considerably confused. It seems important, therefore, if we hope to obtain satisfactory results, that we should understand that: (1) cholagogues do not affect the rate of secretion by the liver, but they stimulate evacuation of the gallbladder and increase the flow of bile into the intestines; (2) hydrocholeretics increase the volume of bile, but they do not stimulate the secretion of biliary constituents; and (3) choleretics produce an increased flow of bile and an increased elimination of biliary constituents.[20]

I have not been subsidized by the manufacturers to exploit any particular product, but it seems worth-while to understand just what products possess the action of cholagogues, hydrocholeretics and choleretics. (1) Oxidized unconjugated bile acids are represented by dehydrocholic acid which is sold under various trade names. They act as hydrocholeretics by more than doubling the volume of bile, but they reduce cholates by about one-third. (2) Conjugated ketocholanic acids are moderately choleretic, but increase the volume of bile. The excretion of cholates is not changed except as a result of the administered ketocholanic acid. (3) Normally occurring conjugated cholic acids (unoxidized bile acids) are represented by bile salts, choleic acid, oleic acid, and hog bile products. These produce an increased flow of bile and an increased excretion of bile salts, the latter, however, from the administered cholates.[20]

It would seem quite in place to mention at this time other drugs that by the laity and unfortunately by some practitioners are thought to influence bile secretion. Calomel in 100 mg. doses has no effect on either the volume or the constituents of the bile. Likewise, ammonium chloride, urea, calcium gluconate, mucin and chondroitin are without effect. Sulfanilamide has no significant effect on bile secretion, but it is eliminated in bacteriostatic concentration.[20] Acetyl salicylic acid increases the volume of bile by about 59 per cent, but it slightly reduces the excretion of cholates.[20] Only too frequently are bile-containing pills used by the laity or prescribed by the physician for so-called biliousness, when the laxative results obtained are due only to the phenolphthalein, cascara and aloin that they contain, and not to the small amount of bile.[21] Furthermore, in my opinion and from my personal experience they have been responsible for more of the so-called irritable and spastic colons than any other single cause.

Finally, prophylaxis against postoperative bleeding or the hemorrhagic tendency when blood prothrombin is deficient will require first the administration of necessary food factors with bile, bile acids or desoxycholic acid to assist in the absorption of vitamins K, A and D, and probably other fat-soluble products. When hepatic insufficiency is present, although the prognosis is serious, the chief therapeutic agents should consist of dextrose, gelatin or amino-acetic acid, calcium, viosterol, ascitic fluid and blood transfusions.[18]

It has been possible only to scratch the surface of this important subject, but I hope the importance of bile, vitamins and dextrose, the B, V, D's, not underwear, but an understanding of diseases of the liver, represents a well-established therapeutic triumph.

BIBLIOGRAPHY*

1. Ivy, A. C.: Personal communication.
2. Kocour, E. J.; and Ivy, A. C.: The Effect of Certain Foods on Bile Volume Output Recorded in the Dog by a Quantitative Method. Amer. Jour. Physiol., **122**:325-346, 1938.
3. Greene, C. H.: Hotz, R.; Carter, R. F.; and Twiss, J. R.: The Postoperative Concentration of Bile Salts in Human Bile. Amer. Jour. Surgery, 1940, to be published.
4. Jacobi, Mendel; Zuckerman, Chas.; Kogut, Benjamin; and Klein, Bernard: Studies in Human Biliary Physiology. Amer. Jour. Dig. Dis., **7**:382-85, 1940.
5. Greene, Carl H.; Farrell, Elliston: Liver and Biliary Tract Arch. Inter. Med., **65**:847-869 (April) 1940.
6. Opie, E. L.; and Alford, L. B.: Quoted by Greene and Farrell.[5]
7. Goldschmidt, S.; Vars, H. M.; and Ravdin, I. S.: Miller, L. L.; and Whipple, G. H.; Messinger, W. J.; and Hawkins, W. B.: Quoted by Greene and Farrell.[5]
8. Dam, H.: Hemorrhages in Chicks Reared on Artificial Diets: A New Deficiency Disease. Nature, **133**:909-910, 1934.
9. Dam, H.: The Antihaemorrhagic Vitamin of the Chick: Occurrence and Chemical Nature. Nature, **135**:652-653, 1935.
10. Dam, H.: The Antihaemorrhagic Vitamin of the Chick: Biochem. Jour., **29**:1273-1285, 1935.
11. Hawkins, W. B.; and Brinkhous, K. M.: Prothrombin Deficiency the Cause of Bleeding in Bile Fistula Dogs. Jour. Exper. Med., **63**:795-801, 1936.
12. Quick, A. J.: The Coagulation Defects in Sweet Clover Disease and in the Hemorrhagic Chick Disease of Dietary Origin: A Consideration of the Source of Prothrombin. Amer. Jour. Physiol., **118**:260-271, 1937.
13. Snell, Albert M.: The Treatment of Liver Disease. Ann. Int. Med., **12**:592-608, 1938.
14. Upholt, H. V.: A Summary of the Literature on Hemorrhagic Tendency (unpublished).
15. Clark, R. L., *et al.*: Proc. Staff Meeting, Mayo Clinic, **14**: 407, 1939.
16. Brougher, V. C.: Effect of Cod Liver Oil on the Delayed Coagulation Time Following Experimental Obstruction Jaundice. Science, **68**:256, 1928.
17. McNealy, R. W.; Shapiro, P. F.; and Melnick, P.: Effect of Viosterol in Jaundice. Surg., Gyn. & Obst., **60**:781, 1935.
18. Quick, A. J.: Nature of Bleeding in Jaundice. J.A.M.A., **110**:1658-62 (May 14) 1938.

*I have quoted freely from the publications of Green and Farrell,[5] Snell[15] and Upholt[14] and several of the above references were quoted by them.

19. Butt, H. M.: Oral and Intramuscular Administration of Vitamin K in Hemorrhagic Diathesis of Obstructive Jaundice. J.A.M.A., **112**:879 (March 4) 1939.
Warner, E. D.; Brinkhous, K. M.; and Smith, H. P.: Bleeding Tendency of Obstructive Jaundice: Prothrombin Deficiency and Dietary Factors. Proc. Soc. Exper. Biol. & Med., **37**:628-30 (Jan.) 1938.
20. Schmidt, C. R.; Beazell, J. M.; Atkinson, A. J.; and Ivy, A. C.: The Effect of Therapeutic Agents on the Volume and the Constituents of Bile. Amer. Jour. Digest. Dis., **5**: 613-17, 1938.
21. Ivy, A. C.; and Berman, A. L.: The Rationale of Bile Salt Therapy in Biliary Tract Disease. Minn. Med., **22**:815-20, 1939.

THE DIAGNOSIS AND TREATMENT OF THE PURPURIC DISEASES*

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While serving as pathologist for a two-hundred-bed general hospital during the past ten years, I have noted many instances of patients who were improperly treated for various types of hemorrhagic diseases. In most of these, the failure to employ proper therapy was apparently based on a lack of knowledge of the underlying mechanism and causes of bleeding diseases. Occasionally this may be followed by disastrous consequences for the patient. For example, on three occasions I have found that splenectomy had been performed in patients in whom there was no deficiency of platelets, but who were suffering from hemorrhages of capillary weakness. In other instances I have noted patients with thrombocytopenic purpura who were given long and expensive courses of snake venom injections, and I have studied two patients who obviously had subleukemic leukemia but from whom the spleens had been removed. These observations have prompted me to choose the subject of the diagnosis and treatment of hemorrhagic diseases for my Chairman's Address.

No person can intelligently classify, diagnose and treat a case of purpura without some knowledge of the basic factors concerned in the process of blood clotting and the mechanism of hemorrhage into the tissues. Therefore, it is well to consider briefly the current concept of coagulation of the blood.

Although much research is in progress on this important question, it is still necessary to employ the terms first used by Howell in order to discuss this subject. Several factors are required for the proper and normal coagulation of blood. These are fibrinogen, prothrombin, antithrombin, calcium salts, thromboplastin, and the blood platelets. All of these substances are found normally in the blood plasma. Antithrombin, better known as heparin, is supposed to exercise the function of neutralizing the prothrombin, or, in other words, of preventing the clotting of blood in the vascular system. Therefore, there are five different agents concerned in the coagulation of blood, a lack of any one of which may retard the clotting mechanism.

Fibrinogen is present in the blood plasma in a concentration of four-tenths of 1 per cent. It is formed in the liver and released in sufficient quantity to maintain the above figure. It is, of course, the precursor of fibrin which is the first physical evidence of blood clotting. It should be borne in mind that since the maintenance of this essential substance is apparently a function of the liver, any far advanced disease of the liver may cause a depletion of fibrinogen. Consequently a prolonged coagulation time of blood may be seen in occasional instances of cirrhosis, metastatic carcinoma of the liver, and other instances of advanced liver disease. Also, occasional cases of hereditary fibrinopenia have been reported.[1]

Prothrombin exists in the blood as a globulin structure, being held inactive by antithrombin, and is thought by some to be derived from blood platelets, but in the light of recent work it may be identical with vitamin K, and if so it has its origin from the intestinal tract, with perhaps some subsequent alteration by the liver. The best evidence to this effect is the fact that in those patients who show a decreased prothrombin content as measured by the Quick method for prothrombin time the condition is easily corrected by administration of vitamin K.

Calcium salts are present in normal plasma in sufficient quantity to cause the activation of prothrombin to thrombin during blood clotting. Although formerly much stress was placed on this agent in disturbed clotting mechanisms, it is now believed that there is no hemorrhagic disease caused by a deficiency of calcium salts. For that matter, there is no disease characterized by a sufficiently low calcium content to prevent blood coagulation. Therefore, the administration of calcium salts to patients, a current practice in bleeding diseases, is an utter waste of time, effort, and calcium. The patient does not need them and simply excretes them through the intestinal tract. There is no reliable evi-

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dence that calcium has ever corrected any hemorrhagic disease.

Thromboplastin, or cephalin, is thought to initiate the clotting process, and has its origin mainly from the escaping tissue juices in incised wounds. Also the blood platelets are thought to provide smaller amounts of this substance, particularly after clotting has begun. I know of no instance where there is known to exist a deficiency of thromboplastin, and as yet there has not been produced a therapeutic agent to provide it, even if its need could be demonstrated.

The blood platelets, numbering some 500,000 per cubic millimeter of blood, are derived from the bone marrow, and in addition to providing small amounts of thromboplastin during their disintegration, are responsible for one of the most important actions in stopping the flow of blood. After the coagulation of blood is completed with formation of fibrin strands, and the cellular elements are trapped in its meshes, there is a soft jelly-like clot. It is then absolutely necessary that this clot be pulled together, strengthened and retracted if bleeding is to cease. If the platelets are low or absent, this does not occur. Since platelets are formed in the marrow and presumably destroyed in the spleen, a decrease can occur from diseases involving the bone marrow or from their increased destruction in the blood.

In summary, then, of the factors concerned in blood coagulation, it is necessary to have adequate quantities of prothrombin, fibrinogen, thromboplastin, blood calcium and blood platelets. The correct evaluation of any hemorrhagic disease must consider these fundamental factors.

The normal clotting mechanism, then, can be illustrated in the following manner:

Prothrombin + calcium = thrombin

Thrombin + fibrinogen = fibrin strands

Fibrin strands + cells = the completed clot

The completed clot + platelets = the retracted clot and cessation of hemorrhage

From this outline it may be seen that all of the chemical constituents may be normal and a good clot formed, but that bleeding will continue unless there is retraction by the platelets.

CLASSIFICATION OF PURPURIC DISEASES

All bleeding disorders may be classified into three large groups: first, those in which there is a defect in the coagulation components; secondly, those in which the platelets are inadequate; and thirdly, those in which there is a defect in the walls of the vascular system. Thus, for practical purposes, these may be called:

(1) Coagulation defect purpuric disorders

(2) Thrombocytopenic purpuric disorders

(3) Vascular defect purpuric disorders

If a more comprehensive classification seems desirable, then the three above groups may be subdivided according to etiologic agents that may produce them. This would result in the classification below:

(1) Coagulation defect
- Deficiency in fibrinogen (as in liver disease)
- Deficiency in calcium (not known to exist)
- Deficiency in prothrombin (as in vitamin K deficiency)

(2) Decreased platelets
- Inadequate formation in marrow (as in aplastic anemia)
- Excessive destruction by spleen (as in Werlhof's disease)
- Excessive destruction by toxic agents (as from sedormid)

(3) Vascular defects
- Nutritional (as from vitamin C deficiency)
- Toxic (as in infectious diseases)
- Allergic (as in food sensitivity, etc.)

In all cases of purpuric disorders certain laboratory procedures should be carried out in an effort to establish the nature of the defect and to place it in one of the three large groups. If the defect is properly evaluated and the purpura placed in one of these groups, the treatment may then be instituted on a proper and rational basis.

The laboratory procedures necessary for a thorough study of a purpuric disease include a complete blood count with a Schilling classification of white cells. If possible the hemoglobin should be estimated with a photo-electric instrument.

A careful and accurate estimation of blood platelets is essential, using one or more methods. The counting chamber method, using the diluting fluid of Rees and Ecker, is reliable, as well as all of those in which the blood is collected under magnesium sulphate from a finger puncture. Since all methods for platelet counts vary widely in their results, some prefer to count the platelets in the stained smear and compute the number by comparison with the number of red cells. The experienced worker at a glance can tell whether the platelets are above normal, about normal, or below normal in number. In

our laboratory we prefer to report them as increased, normal, decreased, markedly decreased, or absent. This is adequate for clinical purposes.

The coagulation time should be determined, preferably by the test tube method, in which 3 or 4 c. c. of blood are introduced into a dry tube, the tube gently inverted at thirty-second intervals until the blood no longer flows, this length of time being recorded as the coagulation time. Normally this varies between 5 and 15 minutes, with an average of 7 to 8 minutes. The diameter of the tube should be about 10 to 12 millimeters. Ordinary small serologic tubes are satisfactory. The capillary tube method is also reliable and has the advantage that only a finger puncture is necessary. The test tube method has the advantage that the same tube can be used for the clot retraction, which may be determined by noting the fact that the clot does retract, and not necessarily the time that is required for retraction, although it usually occurs within two hours and is accentuated by placing the tube in the refrigerator. If the platelets are low, the clot will not retract regardless of the time over which the observation extends.

The bleeding time is usually determined, but it is seldom necessary, since the large purpuric spots on most patients already provide eloquent evidence that the bleeding time is abnormal. The finger or ear may be punctured with a deep puncture, using a cutting needle. The blood is allowed to drip without pressure until it stops, this being recorded as the bleeding time. It should be emphasized that the skin puncture bleeding time may be misleading, since under these conditions there is an adequate admixture with thromboplastin from the incised tissue. For example, in hemophilia, the skin bleeding time is usually normal, although the patient may be bleeding freely into the joint spaces.

A tourniquet test for capillary resistance should be done, though this name is misleading, since any purpuric disease with low platelets will give a positive test even though the capillaries are quite normal. It seems to be, therefore, a test not only for decreased capillary resistance, but for thrombocytopenia as well. It is carried out by placing a blood pressure cuff about the arm for five minutes and maintaining the pressure midway between the diastolic and systolic. If new petechial spots appear, it is considered positive. It should be pointed out, too, that there is no indication for the tourniquet test in a patient covered with purpuric spots, since nothing new is learned from the procedure.

Fibrinogen determinations are indicated only in those instances where the defect is shown clearly to be in the clotting mechanism, since deficiencies are seen only in the late stages of far advanced liver diseases and in an occasional instance of hereditary fibrinopenia.

The prothrombin time should be determined in all instances where there is known or likely to be a defect of the clotting mechanism. Always using a normal blood as a control, it can be determined by either the method of Quick[2] or that of Ziffren and associates.[3] The principle in either case is the same, except that in the Quick method the calcium is removed with an anticoagulant and a known amount of calcium is added. In both tests the time required for clotting is determined after the addition of thromboplastin in the form of fresh rabbit brain emulsion. The test should be reported as per cent of the normal.

In summary, then, it may be stated that in all cases of purpuric disorders the following tests or examinations should be made:

A complete blood count
A platelet count
Coagulation time
Bleeding time
Tourniquet test
Clot retraction test
Prothrombin clotting time
Plasma fibrinogen estimation in some cases

Only after the information from these tests is available is the clinician properly equipped with the information necessary correctly to evaluate and treat a purpuric disease.

PURPURIC DISEASES CAUSED BY A DEFECT OF COAGULATION

The hemorrhagic diseases caused by a defect in coagulation include hemophilia, the fibrinogen deficiency of liver diseases, and prothrombin deficiencies as seen in obstructive jaundice and hemorrhagic states of the newborn. There has also been reported an occasional instance of prolonged coagulation time associated with an excessive amount of circulating anticoagulant, the nature of which is not known.[4]

Hemophilia.—Hemophilia still remains the disease of theories, and it is not known why the coagulation time is markedly prolonged. There is no evidence that prothrombin, fibrinogen, platelets or calcium is decreased in amount or altered

in function. It is possible that the platelets may resist disintegration and therefore produce inadequate quantities of thromboplastin.

In a study of five hemophiliacs, Brinkhous[5] has found that although the prothrombin content of the blood was normal, there was delay in its conversion into thrombin, thus indicating a deficiency of thromboplastin. The addition of one milligram of thromboplastin from lung tissue extract corrected this in the test tube. Brinkhous also noted that normal blood from a donor corrected the coagulation time, thus again emphasizing the value of the transfusions of whole blood (not serum or plasma) in this disease.

On the other hand, Lozner and associates[6] removed the fibrinogen and prothrombin from normal plasma and found that this reduced the coagulation time of hemophilic blood both *in vitro* and *in vivo*.

Hemophilia remains a disease of men. It is transmitted by females and affected males and the family histories are usually clear-cut and definite.

The blood of the hemophiliac usually shows a normal cellular picture unless anemia is present from excessive bleeding. The skin bleeding time is normal, since adequate thromboplastin seems to be provided from the tissue juices. The clot retraction is normal, since the platelets are adequate for this purpose. The coagulation time, however, is markedly prolonged. Bleeding occurs spontaneously, usually in joint spaces, so hemophilia is a crippling, deforming disease. Many of these patients are seen first by orthopedic surgeons. The diagnosis is usually established early in life, since excessive bleeding occurs from trivial cuts and injuries.

The treatment of this disease is probably as unsatisfactory today as it was 100 years ago in spite of the large number of therapeutic agents that have been employed. Those of more recent interest include the use of ovarian and estrogenic extracts, transfusions, sensitization with various agents, fibrinogen, various so-called hemostatic agents, cephalin, protein shock, snake venom, liver preparations, special diets, prothrombin, vitamin K, and finally placental extracts by mouth and by injection.

The use of placental extracts has attracted more recent attention. These were first employed because of the well-known freedom from bleeding in the hemophiliac infant. Their use was based on the assumption of transmission of an immune or protective substance from the mother, presumably present in the placenta.

I have treated five hemophiliac brothers with placental extracts by mouth. Also I have treated three other hemophiliac brothers with the same substances with no detectable improvement. Transfusions at frequent intervals constitute probably the best treatment. The local application of normal blood plasma to the bleeding areas seems helpful in controlling hemorrhages. Pressure bandages are useful if the hemorrhages are severe. Aside from these measures there is little that can be done for the hemophiliac, and certainly no specific agents of value are available at this time. Elimination of the disease by preventive measures should be done, though this appears well nigh impossible.

Prothrombin Deficiency.—The second group of hemorrhagic diseases caused by prolonged coagulation of the blood includes the prothrombin deficiencies, or more specifically a deficiency of vitamin K. In the normal person an adequate amount of this substance is derived from the food, particularly the leafy vegetables. This is activated and absorbed only in the presence of adequate amounts of bile, with a normal intestinal mucosa, and probably a normal functioning liver. In conditions where bile does not reach the intestinal tract as in external biliary fistulae and complete obstructive jaundice, the vitamin is not absorbed. Also it is not absorbed in adequate quantities in such conditions as ulcerative colitis, short circuiting operations, intestinal fistulae, or in the bacteria-free intestinal tract of the infant. There may be an inadequate vitamin intake in the food, and impaired liver function may deplete the supply. If the vitamin is absent or improperly absorbed, this is followed by a deficiency of prothrombin, and if the deficiency is marked, hemorrhages will follow because of prolonged coagulation. The vitamin has been recently prepared chemically; it belongs to the chemical group of naphthaquinones, and is available for therapeutic use.

Vitamin K should be employed in any of the conditions mentioned above in which hemorrhages are likely to occur. It should be given preoperatively in cases of obstructive jaundice, in operations on the intestinal tract, particularly if there is evidence of liver damage, regardless of whether the prothrombin levels of the blood are normal. In such circumstances the vitamin should be given by injection, either intramuscularly or when mixed with saline, by the intravenous route. When given by mouth a preparation of cholic

acid or bile salts should also be given, but this is necessary only in conditions where bile is absent from the intestinal tract.

Vitamin K is a specific for the hemorrhagic states of the newborn, since the prothrombin is low at birth, becomes lower for three to six days and then gradually rises to normal. Tocantins[7] observed a markedly lowered prothrombin and extreme icterus in an infant. The correction of jaundice and return of prothrombin to normal occurred simultaneously. He concluded that a damaged liver was the probable source of both abnormalities. From this the inference would follow that hypoprothrombinemia of the newborn may be caused by liver damage, the degree of prothrombin reduction being proportional to the degree of hepatic insufficiency. This indicates further that the liver is the site of conversion of vitamin K into prothrombin. Whether or not vitamin K should be administered routinely to mothers before delivery is open to question. In cases of hemorrhage of the newborn it is safer to continue to inject blood intramuscularly, in addition to giving the vitamin.

Fibrinogen Deficiency.—The third condition characterized by prolonged coagulation is seen in the rare cases of fibrinogen deficiency of liver damage. I have recently studied a 70-year-old man with metastatic carcinoma of the liver whose blood coagulation time was about one hour. He was literally covered with ecchymotic areas and was bleeding into the joint cavities. The fibrinogen was markedly reduced. For this condition there is no adequate treatment, though it is usually the type of case in which all the hemostatic agents are used.

PURPURIC DISEASES CAUSED BY DEFICIENCY IN BLOOD PLATELETS

As was said before, the chief function of the blood platelets is to strengthen the clot by retraction. If the platelets are low, even though coagulation time is normal, the clot will not retract in the test tube. The bleeding time is prolonged from finger puncture.

Absent or decreased platelets may be caused either by inadequate production in the bone marrow or excessive destruction in the spleen or peripheral blood. Such diseases as aplastic anemia, aleukemic leukemia and widespread tumors of the marrow may cause inadequate production. In aplastic anemia the other elements of the marrow are involved as well, since the patient is profoundly anemic, the white cells are low, granulocytes almost absent, and platelets at an extremely low figure. In aleukemic leukemia there is usually anemia, a normal or low white cell count, low platelets, and the presence of the characteristic leukemic cells upon which the diagnosis is usually established. Radiologic studies will usually rule out widespread tumors of the marrow. The most important thing to determine is whether or not the bone marrow is at fault in the platelet deficiency, and if the above diseases are ruled out then the deficiency may be attributed to destruction in the blood or spleen.

A careful history should be taken relative to the ingestion of drugs. Such agents as quinine, arsphenamine, benzene, and "sedormid," can cause depletion of the platelets. Removal of possible offending agents may correct the deficiency. However, if no such history can be established, and in the absence of infectious disease, by a process of exclusion the diagnosis of idiopathic thrombocytopenic purpura (Werlfhof's disease) is established. Such a diagnosis should be made only after prolonged observation and after repeated studies, since it often leads to splenectomy.

The patient with this disease is usually a young person with a history of outbreaks of purpura over a long period, a tendency to bruise easily, and occasionally prolonged uterine bleeding. The blood shows a prolonged bleeding time, a normal coagulation time, low platelets, a delayed clot retraction, and a normal cell count. Often there is a leukocytosis produced probably by absorption from previous hemorrhages.

Treatment may be medical or surgical. Rest in bed usually brings about a remission. Transfusions are usually employed, but are useful only to induce a remission. The patient appears to recover, but only to have another attack at a later period. This may go on for years and finally splenectomy is imperative. I have never seen a severe case of this disease that finally did not require splenectomy. It is one of the most brilliant therapeutic results to be obtained in the field of blood diseases. Sixteen cases have been treated by splenectomy at the Emory University Hospital without a mortality, apparently with complete cure in all of them. It seems to me that treatment with medical measures is merely temporizing until the inevitable time comes for removal of the spleen. I have had no experience with radiation therapy to the spleen in this disease. The most important thing in the management is to be absolutely certain that the diagnosis is correct. Many failures from splen-

ectomy have occurred because of incorrect diagnosis.

PURPURIC DISEASES CAUSED BY CAPILLARY WEAKNESS

That large group of purpuric diseases in which there is no disturbance of the clotting mechanism nor disturbance of the platelets has arbitrarily been grouped under the heading of purpura of capillary weakness based on the assumption that the defect is not in the blood, but in the vascular system, particularly the capillary walls. This group of disorders has multiple etiologic factors. Thus there is the purpura of vitamin C deficiency, a notable example of which is seen in scurvy. There is a group that is allergic in origin in which the patient is sensitive to some offending food product and in which skin testing and careful allergic histories are necessary to determine the offending agent. There is the type seen in infectious diseases, with the nature of the infection usually evident, and finally a group on a so-called toxic basis in which either chemicals or drugs are responsible.

The blood findings in the entire group are identical. There is no disturbance of the clotting mechanism. The platelets, red cells and white cells are normal. Coagulation and bleeding times are unaffected. There is practically always a positive tourniquet test.

Such patients should be placed on large doses of cevitamic acid, including citrus fruits, to eliminate the vitamin C deficient group. If bleeding continues, foci of infection should be eliminated, since a small focus can cause rather severe hemorrhagic manifestations. The patient should be investigated from an allergic standpoint and offending substances should be eliminated. If these measures fail and it is determined that no drugs or chemicals, either by ingestion or contact are causative, then some of the agents recommended for this type of purpura can be tried. The most commonly used is snake venom.

Snake venom, recommended by Peck and Rosenthal,[8] has now had a thorough trial with conflicting results. The mechanism of its action is not clear. In the acute bleeding cases antivenin seems serviceable, and for purposes of desensitization repeated injections of venom are used over a long period of time. Some cases seem to respond well, while others do not. It should be emphasized that if snake venom has any place in therapeutics of purpuric diseases at all, it is in this group. It is of no service whatever in the thrombocytopenic cases.

Finally there should be mentioned a fourth group that at times appears so large as to be discouraging. This group is that in which there is no alteration of the coagulation time; no disturbance of the platelets; all laboratory findings are normal; there is no evidence of allergy; no evidence of capillary weakness; and in summary these are people who bleed without discoverable cause. This is the type of patient for whom everything is usually tried and still they continue to bleed. Of course it could be called the idiopathic group, which is using a high-sounding scientific term to cover our diagnostic weakness. Perhaps as knowledge increases more and more of these cases will be placed in definite etiologic categories.

SUMMARY

In this paper I have endeavored to summarize briefly our knowledge of the common purpuric disorders, and to stress the importance of carefully determining the nature of the weakness of the clotting mechanism in all cases of purpura. In particular, I deplore the tendency to treat bleeding diseases with various remedies without first carrying out careful laboratory studies to determine the exact nature of the defect. Most important of all, the clinician should remember that when he fails to utilize accepted laboratory procedures in the diagnosis of disease, he is on hazardous diagnostic ground and there are no better examples of this than those seen in the purpuric diseases.

BIBLIOGRAPHY

1. Schonholzer, G.: Hereditary Fibrinopenia. Deutsch. Arch. f. klin. Med., **184**:496 (Aug.) 1939.
2. Quick, A. J.: The Nature of the Bleeding in Jaundice. J.A.M.A., **110**:1658 (May 14) 1938.
3. Ziffren, S. E.; Owen, C. A.; Hoffman, G. R.; and Smith, H. P.: Control of Vitamin K Therapy. Compensatory Mechanisms at Low Prothrombin Levels. Proc. Soc. Exp. Biol. & Med., **40**:595, 1939.
4. Lozner, E. L.; Jolliffe, L. S.; and Taylor, F. H. L.: Hemorrhagic Diathesis with Prolonged Coagulation Time Associated with Circulating Anticoagulant. Amer. Jour. Med. Sci., **199**:318 (March) 1940.
5. Brinkhous, K. M.: A Study of the Clotting Defect in Hemophilia: The Delayed Formation of Thrombin. Amer. Jour. Med. Sci., **198**:509 (Oct.) 1939.
6. Lozner, E. L.; Kark, R.; and Taylor, F. H. L.: Coagulation Defect in Hemophilia: Clot Promoting Activity in Hemophilia or Berkefelded Normal Human Plasma Free from Fibrinogen and Prothrombin. Jour. Clin. Invest., **18**:603 (Sept.) 1939.
7. Tocantins, L. M.: Probable Mechanism of the "Physiologic" Hypoprothrombinemia of the Newborn. Amer. Jour. Dis. Child., **59**:1054 (May) 1940.
8. Peck, S. M.; and Rosenthal, N.: Effect of Moccasin Snake Venom (Ancistrodon Piscivorus) in Hemorrhagic Conditions. J.A.M.A., **104**:1066 (March 30) 1935.

IMMUNIZATION AGAINST INFECTIOUS DISEASES IN THE UNITED STATES ARMY*

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(I) INTRODUCTION

As Americans we are vitally concerned with the development of an adequate program of national defense. This includes the raising of the largest peacetime army ever mobilized in this country. As physicians we realize that the effectiveness of any army depends primarily on the health of its personnel. Therefore, we are also concerned with the measures to be used for the prevention of disease in our rapidly expanding forces.

In this talk it is proposed to discuss the facilities now available for the active immunization of troops against certain of the infectious diseases which during the past have frequently interfered with military activities. However, it may be of interest first to indicate the present status of the Army's health and briefly to consider some of the general measures adopted for the protection of the new defense army.

(II) PRESENT STATUS OF THE ARMY'S HEALTH

Our peacetime Army has an excellent health record. At present the morbidity and mortality rates are lower than at any time in the nation's history. This result is not surprising when one considers the special emphasis which the Medical Department has always placed upon the practice of preventive medicine. In the selection of recruits great care is exercised to eliminate the physically unfit by the maintenance of high physical standards. The soldier is furnished adequate clothing, housed in modern barracks, afforded a well-balanced diet, and required to take supervised physical exercises. He is instructed in personal hygiene and required to practice its principles. He is protected against communicable diseases by an efficient system of environmental sanitation. Artificial immunization, where applicable, is religiously enforced. Finally, in case of accident or illness, he immediately receives medical attention of a high quality in a modern Army hospital.

The effectiveness with which this health program has been administered, especially under peacetime conditions, is clearly shown by the annual admission and mortality rates for United States troops since 1900. The downward trend of these rates is indicated by the curves in the following charts (*Figs. 1* and *2*).

(III) THE POSSIBLE INFLUENCE OF MOBILIZATION OR WAR UPON HEALTH CONSERVATION

Since the adoption of the new plans for national defense, the Army has been confronted with the problem of maintaining this satisfactory health record during the imminent peacetime mobilization, and during any future emergency which may arise.

From past experience it may be assumed that the rapid expansion of the Army will be accompanied by an increase in disease, and that the inducted men will be exposed to localized outbreaks of various infections, especially those which are transmitted through the respiratory secretions. Such was the case during our mobilization for the first World War, and we must be prepared for a repetition of that experience. Should the plan for hemisphere defense necessitate the sending of United States troops to other countries, particularly to places situated in the American tropics, such forces must be protected against the diseases indigenous to those regions. Finally, if the Army should engage in actual warfare, its health problems will become infinitely more serious.

Wartime conditions are not only favorable to the occurrence of epidemic diseases, but they render difficult the efficient application of the measures available for their control. The truth of this observation is apparent even to the casual student of military history. Beginning with the American Revolution, there has been a progressive improvement in the care afforded the sick and wounded in the United States Army. However, in each of our wars the infectious diseases have produced more casualties than have battle injuries. The nature and severity of these infections have differed, depending upon circumstances, but, prior to the Twentieth Century the most disabling of the diseases encountered were included in the intestinal and respiratory groups.

During our participation in the World War the improved sanitary methods available for the protection of water and food caused a reduction

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in the enteric diseases as a whole, and the use of a triple-typhoid vaccine practically eliminated typhoid and the paratyphoid fevers. However, the troops suffered from epidemics of various respiratory infections, especially influenza, and again the total disease casualties outnumbered those caused by the enemy. There were 50,000 battle deaths and 58,000 ascribed to disease.

It is impossible to predict at this time what diseases may arise to attack our forces should they engage in another war. This will depend upon many complex factors, such as geographical situation, climate, season, local health conditions in the areas involved, and the susceptibility or immunization of the troops exposed. Therefore, all of the wartime plagues must be considered as potential hazards, and plans must be made to combat them. Some of these diseases can be prevented with little difficulty, but there are others for which effective control methods have not been developed. After indicating a few of the general measures that have been adopted in order to improve our plans for conserving the health of the new defense army, consideration will be given to facilities now available for the active immunization of troops against certain infectious diseases.

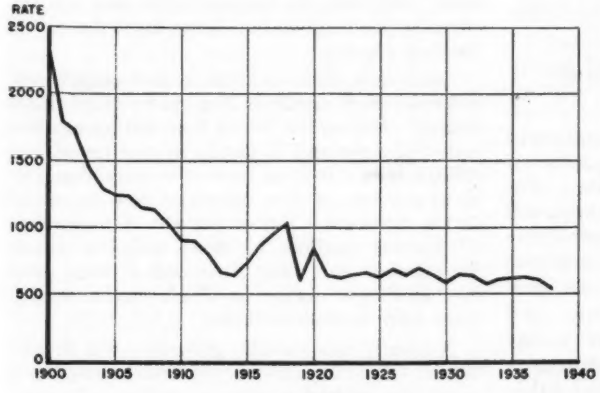

Fig. 1
Admissions to sick report, officers and enlisted men, all causes excluding battle injuries, annual rates per 1,000 strength, since 1900.

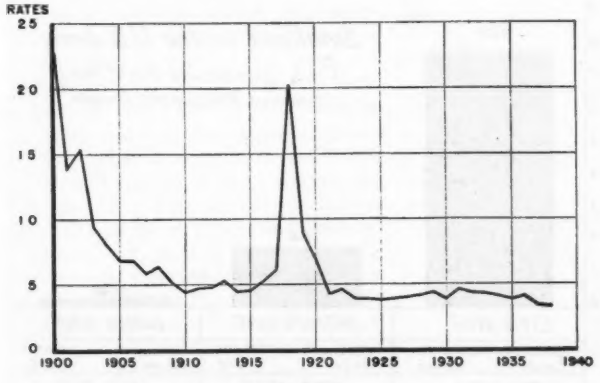

Fig. 2
Deaths, all causes, excluding battle injuries, annual rates per 1,000 strength, since 1900.

(IV) GENERAL MEASURES ADOPTED TO STRENGTHEN THE CONTROL OF DISEASE IN THE FUTURE

Throughout the present emergency the Medical Department of the Army has been actively engaged in the perfection of existing plans for performing all of its numerous and complex activities under such conditions as may arise. Naturally, military preventive medicine has an important place in these plans, and arrangements are now being made to strengthen our defenses against disease, either by the expansion or modification of present health facilities, or, if indicated, by the adoption of new procedures. In this task the Army is receiving the support and help of the entire medical profession.

Early in 1940 the Surgeon General requested that the Chairman of the Division of Medical Sciences of the National Research Council appoint committees, made up of civilian leaders in the various medical specialties, to advise the Army concerning its emergency problems. To date about 30 such committees and subcommittees have been formed, and already they have rendered valuable advice in the different specialties, including preventive medicine.

Another important health measure was instituted during February, 1940. At the request of the Secretary of War, the Administrator of the Social Security Agency authorized the Public Health Service to cooperate with the Army by improving sanitation and disease control in civilian areas adjacent to military stations and concentrations. This type of extra-military sanitation has been utilized in

connection with all maneuvers held this year, and undoubtedly it has contributed to the low incidence of disease among the troops. Plans are now being made to extend this arrangement for extra-military sanitation to the vicinity of all Army stations in the United States.

The Surgeon General has also requested and obtained the assistance of the American Medical Association in classifying the medical personnel of the country and in determining the availability of physicians for service in civil life and in the Army. This and the other cooperative activities of the American Medical Association and of the other medical and scientific bodies of America will be of great value.

Thus the medical profession and every health agency in the country is cooperating with the Army in the perfection of its program of military preventive medicine.

(V) PROPHYLACTIC IMMUNIZATION AGAINST INFECTIOUS DISEASES

An important part of this program consists of plans for the prophylactic immunization of troops against certain infectious diseases. For convenience these immunization procedures will be considered as follows: (1) those applicable to all military personnel; (2) others available for use in localized outbreaks of diseases commonly encountered in the United States; and (3) still others that may be required for the prevention of certain uncommon and dangerous diseases to which troops may be exposed either at home or abroad.

(1) *Immunization Procedures Applicable to All Military Personnel.*—We are fortunate in having at hand effective methods for immunizing troops against at least three important diseases to which they are normally susceptible. These are smallpox, typhoid fever, and tetanus. Vaccination against the first two of these has long been required for all military personnel in the United States Army, and active immunization against tetanus is now advocated by scientists throughout the world as good military practice.

(a) *Smallpox.*—Smallpox vaccination is such an ancient and well-recognized prophylactic procedure that it hardly requires discussion at this time. However, it may be well to re-emphasize the fact that smallpox, more than any other disease, was a significant factor in the European conquest and settlement of the Western Hemisphere; that it has been a continuous menace to our troops since the earliest Colonial wars; and that even today this disease still exists in the civil population of the United States.

Subsequent to Lady Montague's introduction of variolation into England in 1721, this procedure was used to some extent in North America; but, because of obvious dangers, it was not universally adopted. In 1798 Edward Jenner introduced the use of cowpox pus, the forerunner of the vaccines now employed. Vaccination was used during the War of 1812 and the Mexican War, and more extensively during the Civil War. However, its administration was not universally practiced in our Army until the end of the last century.

Since that time vaccination has been rigidly enforced and smallpox has practically disappeared. During the World War smallpox caused only 853 cases and 14 deaths in an army of four million men. It is of interest to note that 780, or 91 per cent, of these infections were contracted in the continental United States. A comparison of this low smallpox incidence with the records for previous wars (*Fig. 3*) affords striking proof of the efficient manner in which vaccination has been used in modern times.

Naturally this valuable procedure will be continued. A calf lymph vaccine will be employed, using the multiple pressure method. Revaccination will be required at intervals of three years,

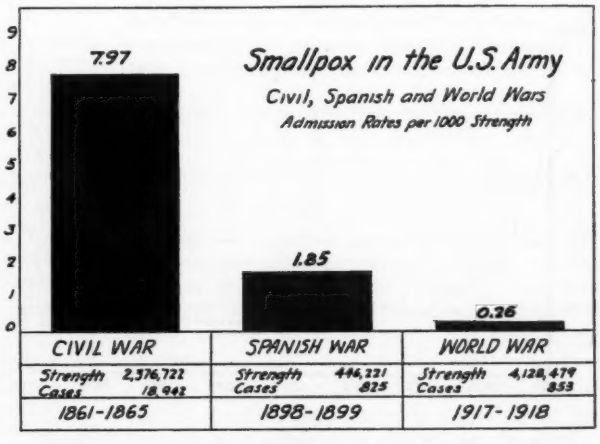

Fig. 3

or earlier if indicated because of transfer to a theater of operations, or in the event of a threatened outbreak of smallpox.

(b) *Typhoid and the Paratyphoid Fevers.*—The typhoid and paratyphoid fevers are also notorious as dangerous wartime diseases. In each of our wars prior to the end of the last century, these fevers occurred in epidemic form, causing a large proportion of the casualties. Even as late as the Spanish-American War, which was fought two decades after the discovery of *Eberthella typhosa,* our troops were again attacked by typhoid fever; and during 1898 the typhoid admission rate was 141 per 1,000 and the death rate 14.

After 1900 more effective methods became available for the sanitary protection of water and food supplies, and their use caused a decrease in the entire group of intestinal infections. In 1908, General F. F. Russell developed an improved type of typhoid vaccine, the use of which was made compulsory in 1910. This vaccine, to which the paratyphoids, A and B, were added during the World War, practically eliminated these important diseases. They caused only 1,529 primary admissions and 227 deaths among our four million soldiers. It has been estimated that if the Army typhoid rates of 1898 had obtained during the World War, we should have had 560,000 cases and 56,000 deaths due to typhoid.

Several years after the War, the triple-typhoid vaccine was discontinued, and replaced, first by a typhoid-paratyphoid A vaccine and later by a monovalent typhoid vaccine. Because of the present emergency, and the possibility that American troops may again be exposed to paratyphoid fevers, a triple-typhoid vaccine has been readopted. This vaccine, which is manufactured at the Army Medical School, contains per cubic centimeter, 1,000 million typhoid bacilli and 250 million each of the paratyphoids A and B. The initial vaccination consists of three subcutaneous injections of 0.5, 1, and 1 c. c., respectively, at intervals of about seven days. Revaccination is required only once, at the end of about three years, except for individuals over 45 years of age. However, additional vaccinations may be required for troops leaving for a theater of operations, or confronted with an epidemic (*Fig. 4*).

(c) *Tetanus.*—Tetanus, in common with certain other anaerobic wound infections, is of obvious military importance. This is clearly indicated by its high mortality among troops in various parts of the world, prior to the routine prophylactic use of tetanus antitoxin. Accurate information concerning the prevalence of tetanus in our forces before the Twentieth Century is not available, and even as late as the Spanish-American War the records for tetanus and septicemia were not separated. During that period and the Philippine Insurrection, when antitoxin was not used, it was reported that these diseases caused 122 admissions and 73 deaths. Tetanus antitoxin was used routinely as a prophylactic in the World War with good results. There were only 36 cases of tetanus associated with 176,000 battle injuries.

Since that time antitoxin has been largely replaced by tetanus toxoid, which has come into general use for the production of an active immunity. This procedure has a number of obvious advantages, and for this reason it has been adopted by most of the armies engaged in the present European war. According to a recent report, the French used toxoid immunization throughout the current war, with no serious reactions and not a single case of tetanus.

In view of the present emergency, consideration has been given to the general use of tetanus toxoid in our Army. According to the plan proposed, the plain toxoid is to be injected subcutaneously as follows: The initial vaccination will consist of three 1 c. c. doses given three weeks apart. This will be followed by subse-

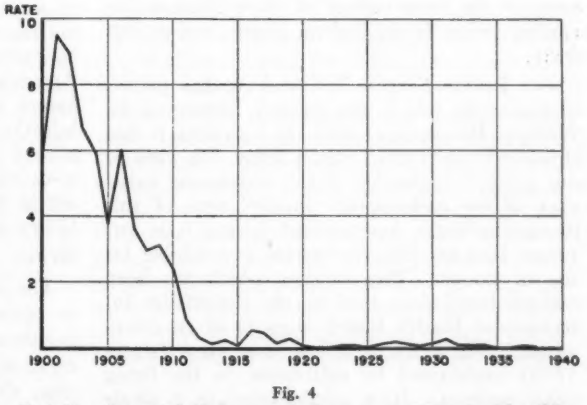

Fig. 4

Typhoid and paratyphoid fevers, annual rates per 1,000 strength, white enlisted men in the United States, since 1900. Typhoid vaccination was voluntary in 1909, compulsory a portion of 1910, and compulsory since 1911.

quent doses of 1 c. c. each, given as follows: (a) at the end of one year; (b) at the time of departure for a theater of operations, if this occurs more than six months after the last dose received, and (c) whenever the individual is wounded or otherwise exposed to infection with tetanus. It is also proposed to record the toxoid injections received by each soldier on his identification tag. When this plan is put into effect, antitoxin will not be required except for the treatment of any cases of clinical tetanus that may occur, or for the passive protection of any wounded individuals who have not been adequately immunized with toxoid. In the latter case, a single dose of antitoxin will be administered and active immunization with toxoid started at the same time.

(2) *Immunization Against Localized Outbreaks of Disease Endemic in This Country.*—In addition to these three vaccines for general use, we have other agents which may be required only for small groups of susceptible men exposed to localized outbreaks of certain diseases common in this country. For example, diphtheria toxoid or scarlet fever toxin may be required under such conditions, particularly when outbreaks of these diseases appear among young recruits.

(3) *Immunization Against Certain Uncommon and Dangerous Diseases to Which Troops May Be Exposed at Home or Abroad.*—In connection with the defense of the Western Hemisphere our troops may be sent to localities where they will be exposed to diseases uncommon in this country. Therefore, consideration has been given to the possibilities of vaccination against some of the more serious of these diseases, including yellow fever, cholera, plague, and typhus fever.

(a) *Yellow Fever.*—Yellow fever has played a spectacular role in the military history of the Western Hemisphere; and on occasions it has threatened the United States Army. In view of our present knowledge of the widespread existence of the endemic or "jungle" type of this disease in South America and Africa, it is fortunate that an effective vaccine is available for use in troops. This vaccine, which has been manufactured since 1936 by the Rockefeller International Health Board, consists of an attenuated, living strain of yellow fever virus (strain 17-D) maintained by cultivation in the living chick embryo. It is administered in a single subcutaneous dose of 1 c. c.; and it can be used advantageously under epidemic conditions. Since 1938 this vaccine has been given to almost two million persons in Brazil.

The Army has arranged for a supply of yellow fever vaccine adequate for the protection of such troops as may be sent to regions where the disease exists, or where it may be introduced.

(b) *Cholera.*—Cholera has been epidemic in India and China since ancient times. On several occasions in the Nineteenth Century it spread over the whole world. During these pandemics the disease was not uncommon in the United States and at times it occurred among our troops. Cholera was not a problem in our Army during the World War, but it occurred sporadically in Russia, Austria-Hungary, and Germany. Since that time it has been confined to Asia and our troops encountered it in the Philippines.

Anti-cholera vaccines have been used for many years, and there is evidence to indicate that a killed suspension of the vibrios, of the type used in Japan and in India, affords protection. If our troops are exposed to epidemic cholera a vaccine should be used.

(c) *Plague.*—Plague is another ancient military disease, which probably originated in China. At times it has spread over the world, killing millions of individuals. The pandemic of 1347-1351 destroyed one-fourth of the population of Europe; and there were about forty-five epidemics or pandemics between the Sixteenth and Eighteenth Centuries. In 1896, an epidemic began in Canton which spread to Formosa, Japan, and to India, where it caused twelve million deaths between that date and 1925. In 1923, it was estimated that there were 250,000 cases of plague distributed throughout the world. During the next year epidemics occurred in various countries of Africa, Asia, Europe, and South America. Endemic foci of rodent plague are known to exist in many localities where human infection is now uncommon and we need not go abroad to encounter this potential hazard. This so-called "sylvatic" type of plague is now present in the United States and it has been found in practically every state west of the continental divide.

The possibility that our troops may be exposed to epidemic plague, of either the bubonic or pneumonic type, must be considered. Should this occur it would be logical to use a bacterial vaccine, although there is some controversy as to the protection afforded.

(d) *Typhus and Related Diseases.*—Another

potentially dangerous wartime disease is typhus fever. The delousing of troops is a valuable control measure, but it is not considered adequate in the presence of epidemic conditions. Vaccines are now being studied for prophylactic use, and the results in animals indicate that they may afford adequate protection in man. Arrangements have been made for the manufacture of large quantities of typhus vaccine for use in the Army should it be required by the occurrence of this disease.

CONCLUSION

Additional immunizing or chemoprophylactic agents are also needed for the prevention of many other diseases of potential military importance. Of these the first to be mentioned is influenza, because this disease constitutes a frightful menace, and also because we appear to be on the threshold of the discovery of a valuable vaccine. This new vaccine, which is prepared by the International Health Board from strains of influenza and distemper viruses grown together in tissue culture, is now being used experimentally for the prevention of influenza in man. It is hoped that the results may afford a weapon with which to control this disease in the Army and in the civil population.

The Army is also interested in an extensive field experiment now being conducted in the Civilian Conservation Corps to determine the prophylactic value against pneumonia of certain pneumococcus polysaccharide solutions. The results of this work, which was begun in 1936, are definitely encouraging, and the studies will be continued.

Specific agents are also needed for the protection of troops living under field conditions against such diseases as gas gangrene, malaria, relapsing fever, aroya fever, the venereal infections, measles, mumps, meningitis, poliomyelitis, and encephalitis.

These unsolved problems constitute a challenge to the medical profession of the United States. They also afford an opportunity for patriotic service of vital importance to the national defense.

REFERENCES

1. Annual Report of the Surgeon General, U. S. Army, Fiscal Year Ended June 30, 1939. U. S. Govt. Printing Office, Washington, 1940.
2. The Medical Department of the United States Army in the World War, Vol. IX, Communicable and Other Diseases. U. S. Govt. Printing Office, Washington, 1928.

CHILD HEALTH*

THE RESPONSIBILITY OF THE FAMILY PHYSICIAN AND THE PEDIATRICIAN

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The science of medicine has progressed more during the past fifty years than in the preceding ages since the coming of man. While this great progress was being made in the science of medicine, equal progress was made in the other sciences. The American public is daily confronted, in industry, business, and home, with changes designed to increase efficiency or comfort. Living in such an age, we cannot blame the laity for applying the modern yardstick to the medical profession. More people are reading now and, due in a large part to the publicity given in the lay press to the proceedings of all scientific meetings, it is possible for them to read more about medicine than heretofore. This attitude of the general public places upon the practitioner the responsibility of keeping up with the continuous advances of medicine.

Too often looked upon as "just a doctor," the family physician for years has been the prime guardian of individual health. Since the health of the individual is the basis of community and national health, the importance of the role of the general practitioner immediately makes itself evident. I like to use the terms general practitioner and family physician interchangeably because no graduate of medicine can qualify as a family physician unless he is a general practitioner. In spite of the birth and robust growth of specialization in medicine, the family physician still remains the most valuable man of medicine to the individual, the family, the community, and the nation.

Twenty-five years ago, if the general practitioner had been told that within his lifetime infant mortality from feeding difficulties alone would be reduced to its present level, he would have been incredulous. If he had been told that the major problems of pediatrics would be how to get children to eat what is best for them to eat, scientifically determined, and how to solve the many problems associated with anorexia, he would have been fully amazed. Yet all of these conditions are being met as the result of the untiring

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efforts, painstaking, scientific investigations, and the self-sacrificing endeavor of pediatricians. To them the family physician owes much indeed. From them he has learned much of inestimable value towards solving the problems of child health and the building of a virile human race physically and mentally capable of perpetuating the traditions of our common heritage.

It should be recognized at once, in the time allotted to this address, that only a suggestion in a broad way can be made as to the position and responsibility of the pediatrist as guardian of the destiny of childhood in its relation to disease. This is the stewardship for which he must give account. Into his hands is first trusted this human life endowed with so many potentialities and possibilities. Could there be a greater responsibility?

In recent years there has come the realization that there must be a close, friendly, and professional relationship between the family physician and the pediatrician. This relationship should be one of cordiality, mutual cooperation, and helpfulness. The family physician should realize his inability to render specialized pediatric service. There should never be any hesitancy on his part to seek the advice of the pediatrician, whenever that advice is needed.

On the other hand, the pediatrician must be not only willing but anxious to cooperate with the general practitioner in making diagnoses, in treating such cases as are deemed necessary, or in advising the practitioner of the best method of care for them, and then referring them back to him for such treatment.

A mutual cooperative understanding between the general practitioner and the pediatrician is one of the most essential factors in safeguarding and improving the health of the children of the nation. Good health in the children of a nation is the surest guarantee that that nation will be able to contribute its share in the development of civilization and will survive in a world in which innumerable forces seem to be contriving to destroy the culture which the race has so painstakingly developed.

It seems unfortunate that the state and nation have usually been most interested in child health during times of war or when the question of defense has forced itself on the attention of its citizens, as in the present crisis. Even in this country the child health movement received its greatest impetus as a result of our participation in the World War. Although national defense may have been the immediate reason for the child health movement, it is well to consider what other valuable assets good health in its future citizens may mean to the state and nation. Healthy minds go hand in hand with healthy bodies and, since the power and influence of a nation are quite as dependent on the industrial and intellectual achievements of its citizens as on its soldiers, we should stress more the need for having our children healthy so that we shall have capable leaders, inventors, and creative artists who will contribute to the future power, resources, and happiness of the nation.

When the general practitioner and the pediatrician accept responsibility on a mutual, cooperative basis, we may look forward with confidence to that day when our goal, the healthy child, will be realized.

At this point our discussion resolves itself into a consideration of what we mean by a healthy child and what we may do to bring about the most satisfactory child health conditions. To borrow the phraseology of our venerable constitution, we hold that every child has certain inherent health rights, which we conceive to be self-evident. Among these rights are the following: (1) good heredity; (2) ideal prenatal care; (3) birth made as safe as possible; (4) immediate physical examination of the baby at birth and proper corrective or curative measures applied and directed when indicated; (5) protection against disease; (6) modern methods of treatment.

The newborn baby comes into the world handicapped or helped by its hereditary background and its maternal environment during pregnancy and labor. It is important to consider the trends and to understand the laws of human heredity and environment and to attempt to devise ways and means of shaping human destiny by a better understanding and application of principles and procedures which will prevent injury, disability, disease, impairment of health, and death of mothers and their babies. This should be accomplished not only for their sakes but for the best interest of mankind.

The hereditary influences go back through each parent for many generations and are transmitted through the male and the female to the offspring. Such hereditary factors result in individual variations and characteristics within the same family, each child, as the result of its heredity and environmental influences, developing its own individuality. When it is generally realized and understood that hereditary and environmental influences are at work both before

and after the birth of a baby and that the biologic laws which govern human propagation may be utilized to help or harm society, then will we begin to establish measures for the control and elimination of the detrimental influences. It is admitted that progress in this direction may have been slow and that certain ideas and procedures which seem to be well established in principle have not, as yet, been universally adopted and applied. It is known that premarital physical examinations are both desirable and valuable for the protection of society and of the individuals concerned. The American public should be taught the great importance of this progressive measure and necessary laws should be enacted to insure its establishment. At present, if they accomplish nothing more than the prevention of marital syphilis, gonorrhea, and other congenital diseases, including blindness, they are worth-while. In the future, after the principle of voluntary and compulsory premarital examination is generally established and our knowledge of human inheritance and environment is enriched, their value can be extended to the betterment of society. Society sorely needs superior individuals if the manifold problems of our complex civilization are to be properly solved.

The responsibility of the pediatrician should begin just as soon as the life of the child commences, and that is at conception. Too often, the obstetrician has overlooked the value of the pediatrician's advice during prenatal care. Here again, as in the case of the general practitioner, there should be manifest a close, friendly, and professional relationship between the obstetrician and the pediatrician.

In the last twenty-five years there has been a reduction of infant mortality, maternal mortality, and maternal morbidity, due to the fact that more attention has been paid to prenatal care and to many other factors involved in infant welfare and child health. During the last five years there has been a greater effort further to reduce the danger and pain involved in motherhood. Thus, the expectant mother should realize, when she enters the doctor's office, that she will receive the benefit of a vast experience found in an historical background rich with scientific experimentation, effort, and self-denial on the part of the medical profession.

Prenatal care means more than just sensible, sane, hygienic living during the period of pregnancy. It means frequent examinations by competent physicians and the application of the proper preventive measures to safeguard the health and happiness of both mother and baby. All the ordinary things that are done to insure good health before pregnancy should be continued, and all the things that are usually done during pregnancy should be done with special stress upon serologic tests for syphilis and the great importance of a well-balanced diet containing, among other things, milk, cereals, eggs, vegetables, fruits, meat, and other essential nutritional food elements. In this connection, I wish especially to emphasize, as well as sound a note of warning, that it is questionable whether one ought to give vitamin D to pregnant women because of the fact that there may actually be an undesirable prenatal smallness or closure of the fontanel with possible trouble at birth. The life of the future individual rests in the hands of the mother, and, indirectly, in the hands of the physician. This is why such great stress is placed on prenatal care.

In recent years there has been a great demand from prospective mothers for painless birth. The use of drugs to control the pains of labor is almost as old as the process of labor itself. However, the giving of powerful sedatives has resulted disastrously so frequently in the past that it is obvious that the dangers incurred by the administration of such drugs should, at least, limit their use.

Among the recent discoveries in the field of pediatrics is the fact that a baby's brain may be seriously damaged by giving too large doses of pain-relieving drugs to the mother during childbirth. Dr. Frederic Schreiber, of Detroit, concluded from an analysis of case records of five hundred children with degenerative changes in their brains that nearly three-fourths, 72 per cent, of these children had not breathed immediately after birth or had difficulty in breathing within the first few hours of life. Dr. Schreiber believes that this disturbance in breathing, whatever the cause, was the reason for the damage to the child's brain. One of the effects of the pain-relieving drugs given in childbirth is to depress the breathing apparatus of the mother. This might occur to such a degree as to endanger the life of the unborn child who is still dependent on his mother for oxygen and nourishment. Many an obstetrician having a difficult time in establishing normal respiration in a baby has thanked fortune that he did not have to combat a depressing drug, in addition to the other factors causing asphyxia.

Of the various forms of anesthesia given, the

inhalation anesthesias are by far the safest in most cases. If properly used, they may be administered over a period of several hours in light doses to minimize the severe pain without interfering too greatly with the progress of labor.

The value of an immediate physical examination of the child after birth cannot be stressed too strongly. At this time, it is absolutely essential to determine whether or not there are any defects and deformities or other evidence of immediate or future danger to the health of the baby. In this respect, the pediatrician plays an important part. He is especially trained in methods of diagnosis, prevention, correction and treatment of defects and diseases peculiar to the newborn. The most pressing problem after childbirth is that which has to do with the kind and amount of nourishment to be given. Here again the advice and guidance of the pediatrician is invaluable. The health and development of the baby depend upon a scientific nutritional regime during his first year. For this reason, a physician specially trained and experienced in the care and feeding of infants should be consulted as soon as the baby is born and at regular intervals thereafter, at least once each month. He will advise the family physician and the mother with regard to all the many details of feeding, and it is absolutely essential that they should follow his advice with the greatest care.

To assist in the proper development of the baby's body and to prevent deficiency diseases, a number of food factors are necessary: proteins, which repair and build tissue and supply energy and warmth to the body; fats, which supply heat and energy; starches and sugars, which supply heat and energy for muscular activities and also build fat; vitamins, such as A, B, C, D, and others well known to medical science, which control growth and health; and an adequate amount of water, which is often neglected but very necessary for good health in babies. Practically all of these and other necessary elements are included in a well-balanced diet consisting of cooked cereals, milk, eggs, meats, fruits and vegetables.

Breast milk, if the baby gets a sufficient quantity and if the mother's health and diet are good, or the proper cow's milk mixture practically always supplies enough protein, fat, sugar, and other food elements needed for health and growth in the first three or four months of life.

The baby should be trained shortly after birth to take its nourishment at regular hours. The average baby will learn very early in life to wake regularly for food and to sleep most of the time between feedings. The average newborn baby should sleep from twenty to twenty-two hours out of the twenty-four.

The great number of infants and children who come to the offices of pediatricians daily suffering from the ravages of nutritional anemia and its attendant diseases is sufficient proof of the great need for a more adequate nutritional regime for the growing child, from birth to adolescence. The existing fear of overweight in mothers, young women and adolescent girls is producing nutritional anemia and other deficiency diseases in this country to an appalling degree. Through cooperation and consultation with the pediatrician, the obstetrician or the family physician will be in a position to make early provision for the future health and well-being of the child.

The next important factor in any successful child-health program is that of preventive medicine or, more particularly, immunization. All immunization measures should be completed, if possible, by the end of the first year.

Although smallpox has come to be a comparatively rare disease, yet the reason for this rarity is the widespread practice of vaccination. Modern smallpox vaccination is simple and safe and is accompanied by very little inconvenience. It should be done at the age of two to four months as a routine measure, and in time of epidemic it should be repeated. Immunization for whooping cough is coming more and more into favor. The best time for inoculation against whooping cough is at the age of four to six months and for immunization against diphtheria at the age of six to eight months. Typhoid is another disease which at one time was very common, but has now become rare. Inoculation against typhoid for children should be done when the child is one year of age or shortly thereafter.

It is very important that children, especially those in thickly settled communities, have all the possible advantages of immunizations. These precautions having been taken and the child having been given the benefit of a good health program, there is little reason why our boys and girls should not enjoy vigorous health and sturdy development. On the other hand, neglect of any of these measures may result in tragic loss of life. After all, when one considers the matter of responsibility, the big thing lies in the prevention of disease as much as or more than in its cure; and this responsibility rests primarily

with the family physician and the pediatrician. If we neglect this duty, it then becomes the responsibility of the health departments.

The child is entitled to the modern methods of treatment of disease by specially trained and experienced physicians. The recent advances in chemotherapy, with such drugs as sulfanilamide, sulfapyridine and sulfathiazole, which give spectacular results in the treatment of septicemia and pneumonia, are a striking illustration of how one must keep up to date to meet the responsibility of treating illness itself. Many of the so-called common disorders of childhood, if neglected or improperly diagnosed and treated, may lead to unsuspected complications with their inevitable results. Therefore, early and proper diagnosis of disease in childhood is, of course, most important; and the general practitioner should and must be prepared, if not to make a definite diagnosis, at least to suspect its seriousness and to ask for consultation with a pediatrician. Delays in diagnosis are too frequently dangerous to the patient and occasionally disastrous to the physician. It is still true that most cases may be properly treated at home by the family physician, but it is also evident that many others are best treated by skilled pediatricians in well-regulated hospitals. In considering modern methods of treatment, one should realize that this necessarily means a great deal more than the mere administration of drugs. In this connection, I am reminded of an article occurring in a recent magazine, entitled "Oh, You Doctors," in which the author said that doctors never tell anybody anything about what is the matter with them. I have always felt that an important duty of the physician is to sit down and explain to people just what the trouble is, that many things do not require prescriptions, and that nature has been at this job a much longer time than we have and takes care of many ailments.

Pediatricians are confronted today with a situation which has been growing steadily in importance over a period of years. The situation has to do with the status of the pediatrician in the field of behavior studies. In the past, they have so concentrated their attention, both in teaching and in clinical practice, upon the child's physical development, nutrition, biochemistry, and diseases of the respiratory, intestinal, urinary and circulatory systems, that they have neglected almost altogether the emotional and personality problems presented by the child. The failure on the part of pediatricians to recognize or to deal with these problems, coupled with the fact that other individuals were engaged in their study and treatment, has often led parents who regularly consulted the pediatrician regarding the physical care of their children to go elsewhere for assistance with the problems involving the emotional life of the child.

The pediatrician, by virtue of his specialty, is in a unique position to deal with the earliest manifestations of children's emotional problems, and it is only logical to expect him to assume his share of the responsibility for them. It is sincerely hoped that this phase of preventive medicine will soon assume the same degree of importance in pediatric practice that is now accorded the physical care of the child.

Once again, I would stress the importance of an increased amount of cooperation between the family physician and the pediatrician. I have emphasized the far-reaching effects of heredity as well as our duty toward the conservation of health, physical, mental and moral, of the child, as though these aims were the final goal of our efforts. They are not. They are but stages in the proper development and equipment of the child. In the end, we shall fail if we have not one further aim in view: that is the preparation and training of the child to use his health and energy, his initiative, and natural resources for the benefit of his fellow men. In building the health of the child we are but constructing the frame of character. The child must be taught that he has a responsibility to those who provided his opportunity, that he has a purpose in life, and that that purpose is not altogether one of pleasure, but of service also. He carries the torch of civilization in his turn, and his growth and development are incomplete until he has learned in all humility his place in life. The duty of the pediatrician and the family physician is to bring forth a life endowed with good heritage, preserve that life in health, and assist in molding that life in character for service. The future strength or weakness of our national life and character depends upon the extent to which we fulfill or neglect that duty. The call today is to meet that high responsibility. In fact, we cannot afford to do otherwise in the critical days that are ahead for the American people and the American nation.

PEDIATRIC RESPONSIBILITIES IN MENTAL HYGIENE*

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The fact that a child is amenable to management is proof that children are endowed with marked flexibility. This flexibility may take the course of a normally behaved social being, or it may follow such channels of management that an anti-social person is produced. Normal behavior is the result of good management, and the science that treats of normal behavior is called mental hygiene. The fact of the truth of these sentences immediately suggest the following questions: With what right does the pediatrician talk of mental hygiene? Is not such a topic reserved for psychologists? Does the pediatrician in private practice encounter abnormally behaved infants and children? Since mental hygiene is primarily concerned with the promotion of normal behavior, does it follow that pediatrics as a specialty should attach as much importance to mental hygiene as it does to diseases of the lungs or the treatment of meningitis? The purpose of this paper is to answer these questions, using for its basis an analysis of my own private practice.

During the lifetime of all of us there has lived and died an individual whose works have revolutionized medical approach to the human mind. Sigmund Freud discovered that the cause of phobias, obsessions and other symptoms in many of his patients dated their origin to definite episodes which occurred during early childhood. This simple observation had never previously been made. Furthermore, a man of modern times, and now living, contributed a second very vital shock to mental approach. Adolph Meyer in this country was the first to link together the concept that mind and body function as a whole and not as separately functioning dehumanized cellular elements.

It was in the past decade (1930) that the first International Congress of Mental Hygiene met at Washington and pointed out that the formative years of childhood would have to be reached before much could be accomplished in preventing the development of mental illnesses and delinquency in later life. It is glaringly apparent that up to this point the one man of medicine who deals exclusively with children has been omitted, or rather has permitted himself to be omitted. It is intensely interesting to me in perusing the contents of the pediatric textbook used during my student days dating back only 11 years to find that no mention is made of childhood behavior problems, maladjustments, social misfits, and the like. Such behavior problems as enuresis and masturbation are listed under disease entities of the bladder and injurious habits respectively. It appears either that the psychiatrists are telling the pediatricians more than the pediatrician knows about his own patient or that the psychiatrists are engaging in a bit of wishful thinking in an effort more thoroughly to determine the origin of mental collapse, delinquency and unhappiness in their adult patients. One needs only to reflect over the past few years to prove that the former is the correct viewpoint in that there has been an increasing endeavor in the past decade on the part of pediatricians to learn more of psychopediatrics. The American Academy of Pediatrics saw fit to include in its round-table discussion of 1936 and 1937 sections devoted entirely to childhood emotional problems, and at the 1939 meeting in Cincinnati its section on sucking habits further acknowledged abnormal behavior as a background in the production of later thumb-sucking and the like. Writings of increasing volume appear in pediatric literature on psychopediatrics, all tending to indicate that pediatricians are finally removing themselves from the rut of the diseases of children and are finding new and tremendously interesting work in the broadened concept of studying the child, not merely the diseases of the child.

It is to be noted that thought in psychobiologic pediatrics has centered largely about groups, clinics, congresses, psychiatrists, and teaching institutions. What then of the vast thousands of children who come under the classification of "private patients," or more aptly expressed, what of those individuals who do not attend charity clinics, congresses and the like? A 15-year-old son of one of Charlotte's most intellectually outstanding families, in which the mother has been president of the American Association of University Women, was recently arrested on the admitted charge of perpetrating a series of robberies, filling station hold-ups, and petty thievery. What of the class represented by that lad? With this background in mind and having studied so much of the abnormal over the past 10 years, and having seen few comments

*Read in Section on Pediatrics, Southern Medical Association, Thirty-Third Annual Meeting, Memphis, Tennessee, November 21-24, 1939.

from the work of private pediatrists, it struck us that a definite knowledge of the need for application of psychopediatrics to private practice would be very illuminating. In order to present to our satisfaction the present status of abnormal behavior in private practice, it was decided to start at the beginning; that is, if any factor of growth is abnormal, a perusal of the processes of growth would be necessary to establish the extent of the abnormality. These processes of growth are physical, emotional, and intellectual. Abnormalities of whatever nature which may develop in the future must take their origin from a deviation from the normal of one or a combination of these three components of growth and development. Let us see how this applies to human beings as a whole at the present time based on a study of these processes of growth and development. One will concede that intellectually the race is on the highest plane since the beginning of time. The mechanics of living at the present time require more actual and intense brain work than ever before. Individuals are forced to know more facts than their forebears in order to survive. One must be familiar with traffic rules and regulations in a sometimes fruitless effort to prevent being run down by automobiles, busses, or trains. Further assimilation of facts enables one to know what button to push to turn on the stoker or to obtain electric lights. Then, too, the intellectual potential has expanded its scope, as exemplified in the increasing number of men and women graduated annually from various colleges and universities. As regards the physical potential for growth and development, your attention is directed to *Chart 1,* which shows a rapid decline in selected infant mortality rates in the last three centuries. *Fig. 1* illustrates the decline in infant mortality rates over a 20-year period in the United States Registration Area. So, as applied to the physical, one will concede that in this country human beings are better off than ever before. When, however, attention is directed to the emotional potential of growth and development, an entirely different situation is envisioned. In the world about us there is suspicion, greed, distrust, and general

Chart 1

INFANT MORTALITY RATES

(Deaths per 1,000 live births)

1781	England and Wales	280.0
1890	United States Registration Area	205.0
	Raleigh	215.0
1932	United States Registration Area	57.6
	North Carolina	66.5

INFANT MORTALITY

Certain periods of the first year of life, 1915-36, United States Expanding Birth-Registration Area.

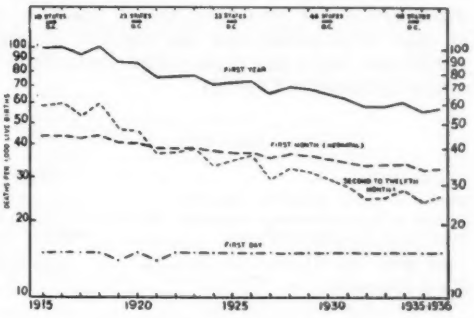

Fig. 1

unrest in extent sufficient to cause an upheaval even in the fundamental principles of government. If noted in government, the families composing that government must be experiencing unrest. This existence of unrest is noted in the separation of the functions of the family from the family. Cooking, sewing, caring for the aged, are not any longer considered to be family problems, but are delegated to some specialized group of hirelings. Unrest is shown in the decrease in time spent in the mechanics of living, substituting garden parties or bridge, and cause one to ask "why things are happening" instead of "what is happening." Family unrest is noticed through changes in the basis of authority which begins about the sixth, seventh and eighth year of life. "Johnny says things to us that we would not have dared say when we were children," one is told by many mothers. Again, unrest is illustrated by a 10-year-old girl who is horrified to learn that milk does not come from a tin can, it comes from a cow. The unhappy girl then refuses to drink anything that comes from such a terrible looking animal, and presents herself to the pediatrician with behavior problems. Over-integration to the child means that everything comes from nowhere and goes into nowhere, so why should the child feel responsible for anything? In former days the child could have its fun at home, but now he goes to the movies for his fun, with the theme of the movie determined by Hollywood minds, portraying no concept of the neighborhood spirit, and resulting in the child's various fibers being literally teased apart.

If unrest is demonstrable in governments and families, it must be likewise found in individuals. Society decrees that individuals sufficiently anti-

social shall be removed from that society and forcibly detained through the medium of jails, reformatories, or other places of detention. Statistics reveal the predominance of adolescents in penal institutions, and the majority of the youths have had a fair degree of intellectual education, as shown in *Chart 2*.

Chart 2

Ohio:	Per Ct.
Increase in general population 1920-1932	15.0
Increase in state reformatory population 1927-1932	90.6
Total prison population 1927-1932	9,562
Age group: 16-20 years	51.0
Elmyra Reformatory:	
Age group first arrests: 16-19 years	
Educational status of prisoners in entire U.S.A.:	
Common school	67.0
High school	14.0
College	3.0
Illiterate	11.0

Caldwell, M. G.: Recent Trends in Juvenile Delinquency. Jour. Juvenile Research, 17:179 (July-Oct.) 1933.

In the event unrest is of sufficient degree to cause the individual to become insane, he is likewise plucked from society and placed in a psychiatric institution. It is interesting to note that the proportion of the population suffering from mental disease is increasing. An impressive array of statistics supports this belief. It is estimated that the annual cost of hospitalizing these patients is between $150,000,000 and $200,000,000 per annum, and that they occupy 47 per cent of the total number of hospital beds in the United States (*Chart 3*).

Chart 3

NUMBER OF PATIENTS PRESENT AT THE BEGINNING OF EACH YEAR AND NUMBER OF FIRST ADMISSIONS PER 100,000 POPULATION—STATE HOSPITALS, UNITED STATES 1926-1936

	Patients Present on January 1		First Admissions	
Year	Number	Rate per 100,000	Number	Rate per 100,000
1926	246,486	217	52,793	46
1927	256,858	219	56,144	47
1928	264,511	222	59,417	50
1929	272,252	226	60,500	50
1930	280,252	229	62,738	51
1931	292,284	236	67,152	54
1932	305,031	245	67,083	54
1933	321,824	257	69,368	55
1934	332,094	262	69,934	55
1935	342,167	269	72,438	57
1936	353,305	276	———	—

Dorn, H. F.: The Incidence and Future Expectancy of Mental Disease. Pub. Health Repts., 53:1991-2004 (Nov. 11) 1938.

It is estimated that 7,000 babies are born every 24 hours in the United States. It is startling to view their outlook on attaining adult life because of the high percentage of those who will assume abnormal behavior (*Chart 4*).

Chart 4

Of 7,000 babies born per 24 hours in U. S.:
1 out of 25 will become insane on reaching adult life
4 out of 25 will become profoundly neurotic
4 out of 25 will become moderately neurotic
4 out of 25 will become mildly neurotic
12 out of 25 will become fairly normal

Gayle, R. F., Jr.: The Problem in Caring for the Mentally Sick in Virginia. Va. Med. Mo., 66:6-12 (Jan.) 1939.

With these preliminary remarks it has been shown that intellectually and physically humanity is being constantly improved; whereas, emotionally, the third component of growth and development, the situation is progressively unimproved.

The literature fails to throw much light on the situation of emotional growth and development as it applies to the private patient class. Therefore, we have undertaken to study our own private practice, taking the last 2,516 consecutive diagnoses from our cross index files, and have obtained the results shown in *Chart 5*. It is to be noted that emotional disturbances rank number 7 in the first 10 diagnoses made, the same relationship held by automobiles in the first 10 causes of death in the United States; yet the American Board of Pediatrics has taken occasion to call attention to the failure of many candidates in that portion of the examination which has to do with growth and development. These emo-

Chart 5

RESULTS FROM 2,516 CONSECUTIVE DIAGNOSES IN PRIVATE PRACTICE

1. Nasopharyngitis, acute	286
2. Gastro intestinal upset, acute	241
3. Malnutrition and feeding cases	206
4. Normal infant	162
5. Anemia	156
6. Otitis media, acute and chronic	118
7. Behavior problems	93
8. Phimosis	81
9. Lymphadenitis, simple, septic, acute and chronic	81
10. Rickets	78

Chart 6

SUMMARY OF THE PRESENTING SYMPTOMS IN ORDER OF OCCURRENCE IN 81 CONSECUTIVE BEHAVIOR CASES IN PRIVATE PRACTICE

Sex		Average Age	Symptoms	No. Cases	Percentage
M	F				
35	46	70 mos.	1. Won't eat and force fed	64	79
			2. Nervous, irritable and won't sleep	48	59
			3. Constipation	26	32
			4. Dietary featuring milk and cereal	21	26
			5. Enuresis	17	21
			6. Tics, thumb sucking and nail biting	13	16
			7. Vomiting	13	16
			8. Speech defects	11	14
			9. Stomach ache	10	12
			10. Fears	10	12

tional disturbances have in turn been broken down and studied, and the first 10 presenting symptoms are shown with their percentage of occurrence in *Chart 6*. In our experience, the single factor which causes the most conflict between mother and child and which sows the seed for future abnormal behavior is that brought about through forced feeding.

One now has sufficient facts to answer the questions proposed at the beginning of this paper, and therefore we submit the following conclusions:

(1) Of the three components of growth and development in human beings, only the emotional phase shows unsatisfactory progress.

(2) The average age at which the private pediatrist is consulted on abnormal behavior is 70 months (5 8/12 years); whereas, forced feeding, the earliest and most frequently demonstrable cause of abnormal behavior, begins at ten to twelve months. The pediatrician must, therefore, make himself more alert to minor problems tending to create abnormal behavior, else he fails in the field of preventive medicine, his most important field.

(3) A child specialist has the right to talk about child management of mental hygiene because abnormal behavior is the seventh most commonly encountered condition which he is called upon to treat, and he is thus faced with the duty rather than the right of increasing his knowledge of mental hygiene, a field forced upon him whether he wishes to embrace it or not.

DISCUSSION (*Abstract*)

Dr. D. Lesesne Smith, Spartanburg, S. C.—Each year I have to get up a medical program, each year I send out questions to learn what the men want on the program, and each year I get a flood of replies asking that the essayists take up the subject of child behavior. I mention that to bring out the current interest in the subject. We all as pediatricians agree that this is an important subject and one that should be studied more fully.

We should take more time to go into the child's background. Sometimes it takes two or three hours, sometimes days. It is well worth the time spent.

Dr. Gilbert J. Levy, Memphis, Tenn.—As pediatrists we have instituted methods for the correction of physical defects, but have lagged in the behavior problem. With amazement we learn that the statistics of penal institutions indicate that half the inmates are between 16 and 20 years of age. In Dr. Hunt's classification of case analysis, behavior problems are listed as seventh among the first ten diagnoses. This schedule, I believe, would aptly strike an average for every pediatrist's private practice. I must confess my guilt that in previous years my concern has been the correction of physical ills rather than coping with the apparent minor behavior problems, depending upon natural forces to direct the solution. I feel fairly convinced that discipline, if properly administered, cannot be harmful. A growing child needs the most careful guidance in the process of interpretation and reasoning. Complete freedom of thought cannot possibly solve the needs of a child's mind.

Any standardized treatment would certainly fail as a specific method of application. Let us correct any possible physical disability before attempting investigation of the mental aspect. Hidden infections may be the basis of the so-called mental status.

The child's problem should be attacked on a sympathetic basis. We must gain the confidence of our little patients by having untiring patience and faith in children themselves. The child's problem demands as much time in private interviews as does that of the parent. Encourage children to discuss their problems with you. Rewards, suggestions and well-directed education are of decided help. Confidence and cooperation extend not too often beyond the immediate parent. Don't overlook some of the aunts and grandmothers in the final analysis.

Consultation with a capable psychiatrist in the more difficult problem cases will often yield excellent dividends.

CENTURIES OF PROGRESS IN OBSTETRICS*

By ROBERT M. ANDERSON, M. D.
Shawnee, Oklahoma

I quote from Dr. Palmer Findley to whom I am indebted for some of the material used in this paper. In his book "Priests of Lucina," he says:

"Modern obstetrics had its beginning in the common clay of ignorance, superstition and religious bigotry. There is a fascination in the study of history, in the wealth of information gleaned from its pages, in the romance that marks its onward progress. Without this possession doctors would be committed to crass materialism; with it they are inspired by the lofty ideals of the profession."

The first reference in literature to the protection of the perineum from injury in labor is found in the works of Soranus, of the second century A. D. Also to him can be traced the obstetrical chair, and podalic version. After Soranus there was no real progress recorded before the time of Paré some fifteen hundred years later.

Perhaps the worst phase of Renaissance medical practice was that of obstetrics. We know little of this art in medieval times, but we may gauge the extent of its degradation by what happened in the Renaissance period. In normal labor a woman had an even chance, if she did not succumb to puerperal fever or eclampsia. In difficult labor she was usually butchered to death, if attended by a Sairey Gamp of the time, or one of the vagabond surgeons. As a rule, only midwives attended women in labor, and in 1580 a law was passed in Germany to prevent shepherds and herdsmen from attending obstetrical cases. The abuses were remedied to some extent by city ordinances governing midwives. In the seventeenth century, Mauriceau, Portal, van Deventer and the midwives, Louise Bourgeois, who attended Marie de Medici six times in her labors, and Justine Siegemundin, court midwife to the Electorate of Brandenburg, gave considerable thought to obstetrics in their writing.

Mauriceau in 1668 wrote on the diseases of pregnant and puerperal women. His work was a sort of canon of art in its time, giving a good account of the conduct of normal labor, the employment of version, and the management of placenta praevia. His book also gives an account of the author's adventures with the celebrated Hugh Chamberlen, of the Huguenot clan, who succeeded in keeping their invention of an obstetrical forcep a family secret through several generations. The forcep was invented by Peter Chamberlen, Sr. With it Hugh Chamberlen failed to deliver a rachitic dwarf, who had been confided to him by Mauriceau. A far more important work is the Novum Lumen of Hendrik van Deventer, which although printed in 1701 properly belongs to the seventeenth century. He practiced in his native city, The Hague, until death. He has been rightly called the father of modern midwifery. His book gives the first accurate description of the pelvis and its deformities, and the effect of the latter in complicating labor. Hendrik van Roonhuyze was the first to write a book on operative gynecology and was known as a champion of cesarean section, which he performed several times with success. He also gives reports of extra-uterine pregnancy, and rupture of the uterus. His son, Rogier van Roonhuyze, is the one to whom Hugh Chamberlen sold the secret of his obstetrical forcep about 1693. The status and education of the midwives of Holland were much improved by both van Deventer and Roonhuyze.

During the eighteenth century the care of labor cases began to pass from midwife proper to the trained male-obstetrician. In the seventeenth century Peter Chamberlen attended Queen Henrietta Maria in a miscarriage and Hugh Chamberlen delivered the future Queen Anne. In due course, male midwifery became the fashion among the great ladies of the court. Progress in this matter was, of course, slow, and when a certain obstetrician told Joseph II that the Vienna women were too modest to have men as midwives, that moral monarch replied with fitting irony, "Wutinam non essent adeo pudicae" (Would they were not modest to that extent). At first, as in some court circles today, the obstetrician simply supervised the conduct of labor, but as soon as women began to permit physicians to examine as well as deliver them, knowledge of the complex details of midwifery began to make rapid strides.

The teaching and influence of such men as William Smellie and his pupil, William Hunter, Baudelocque and others were responsible to a great extent for this progress. William Smellie not only practiced obstetrics in London, but taught also, using a leather covered mannikin supported by actual bones. He introduced the

*Chairman's Address, Section on Obstetrics, Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, Kentucky, November 12-15, 1940.

steel-lock forcep in 1744, and the curved and double curved forceps later. In his book he laid down safe rules for using the forceps and for differentiating contracted and normal pelves by actual measurement. In 1776, John Harvie, who married Smellie's niece, published a pamphlet in which he stated the advantages of external manual expression of the placenta over traction or internal manipulation. This was nearly ninety years before Credé. The same idea was conveyed by several Dublin obstetricians from 1781 to 1848, becoming an established mode of procedure there, and was known as the Dublin method.

William Hunter trained at Glasgow under Cullen, becoming the leading obstetrician and consultant in London. Here he worked to the end of his days, and few men have shown such austere devotion to science. He gave to the city of Glasgow a museum worth several thousand pounds. Stephen Paget said of him:

> "He never married; he had no country home; he looks in his portraits a fastidious fine gentleman; but he worked till he dropped and he lectured when he was dying."

His special discovery, in which his brother, John Hunter, had a part, was of the "decidue reflexa" and the separate maternal and fetal circulation, which is the foundation of modern knowledge of placental anatomy. Unlike Smellie he opposed the use of forceps and often exhibited his own covered with rust, in evidence of the fact that he never used them.

Scientific obstetrics may be said to have begun in Ireland in the first half of the eighteenth century when Fielding Ould published a Treatise on Midwifery, which he dedicated to the College of Physicians. He became Master of the Rotunda Lying-In Hospital in 1759. In the same year he was knighted by the Duke of Bedford, Lord Lieutenant, a distinction that brought forth the following epigram:

> "Sir Fielding Ould is made a knight,
> He should have been a lord by right,
> For then each Lady's prayer would be—
> Oh Lord, good Lord, deliver me."

Ould was refused a medical degree by the College of Physicians on the grounds that the practice of midwifery was not becoming to a member of that dignified body. This incident caused a separation of the College of Physicians and the University, and Ould was granted the degree of M. B. by the University. He would not tolerate the cesarean operation, declaring it to be a detestable, barbarous, illegal piece of inhumanity.

Baudelocque's claim for distinction rests largely upon his development of the technic of measuring the diameters of normal and contracted pelves in living women and in correlating their relationships to the measurements of the fetal head. This was a noteworthy contribution and one that paved the way for a better understanding of the problems involved in obstetrical labor. He first described the external conjugate diameter now known as the diameter of Baudelocque. Jean Louis Baudelocque was rightfully regarded as the most popular obstetrician in France.

The teaching of midwifery in the United States had its modest origin in the house of Dr. William Shippen, Sr., on Front Street, Philadelphia. There groups of doctors and midwives were instructed in midwifery by Dr. William Shippen, Jr., but not without much opposition from the public and the medical profession. Shippen was berated and threatened with violence, for it was a scandalous undertaking in those pietistic days to expose women in childbirth to the gaze of the public.

Dr. John Stearns, in the early nineteenth century, was accorded full credit for popularizing the judicious use of ergot and for defining its limitations.

Dr. William P. Dewees wrote a paper entitled "An Essay on the Means of Lessening Pain in Facilitating Certain Cases of Difficult Parturition" about forty years before chloroform was discovered. Again writing in 1819, Dewees informs us that opium in the form of laudanum, was the favorite remedy with most accoucheurs, but stated that he could see no virtue in its use in making pains more efficient; on the contrary the uterine contractions were weakened. The letting of blood to the point of fainting was his favorite remedy as it was with many obstetricians on the continent.

The name of Walter Channing will ever be associated with that of Sir James Y. Simpson. Both made priceless contributions to the relief of pain in childbirth but not without opposition from the church, the public and the medical profession. Chief among the opponents was Charles Meigs of Philadelphia.

James Y. Simpson was a Scotchman, and a professor of obstetrics in Edinburgh. He had a pleasing personality and acquired a large practice. He made a great name for himself by being the first to use chloroform in obstetrics.

He introduced the long, obstetrical forcep and many new points in technic, although not without a certain touch of religious fanaticism, which may account for his somewhat bigoted opposition to Lister. He exerted a wonderful influence over his patients, and had, all in all, a most remarkable personality.

Carl Credé, a professor of obstetrics in Leipzig, introduced two things of capital importance; first, the method of removing the placenta by external manual expression; and the prevention of gonorrheal ophthalmia by instillation of silver nitrate into the eyes of the newborn. He founded the obstetrical polyclinic at Leipzig.

Braxton Hicks was a famous teacher in London. He made an epoch in the history of obstetrics, by the introduction of podalic version by a combined external and internal manipulation. His observation on the condition of the uterus in obstructed labor, and in accidental concealed hemorrhage are also highly esteemed by practitioners of his art.

The nineteenth century marked great advancement. The new Vienna school, where Skoda and Rokitansky worked, was the birthplace of one of the greatest single achievements of the century, the determination of the true cause and prophylaxis of puerperal fever.

In the eighteenth century, Charles White of Manchester, England, had enlarged upon the advantage of scrupulous cleanliness in obstetrical cases, but it remained for some one later to tell the reason why. In 1843 our own beloved Oliver Wendell Holmes read to the Boston Society for Medical Improvement, his paper on the contagion of puerperal fever, in which he announced women in labor should not be attended by physicians who had been conducting postmortem section, attending cases of puerperal fever, or even cases of erysipelas, that they should wash their hands in calcium chloride, and change their clothing as a preventive measure. Hodge and Meigs of Philadelphia, violently opposed this paper. In 1885 Holmes wrote on puerperal fever, as a private pestilence, in which he reiterated his views and states that Semmelweis had lessened the mortality of puerperal fever by disinfecting the hands with chloride of lime, and use of the nail brush.

Semmelweis was a pupil of Skoda and Rokitansky, and in 1845 had become an assistant in the first obstetrical ward in a Vienna hospital. This ward had acquired such a high mortality in puerperal cases that women begged in tears not to be taken into it. Semmelweis had noticed that the second ward had a lower mortality than the first, and knew that students came directly into the first ward from the dissecting room for instructions, often making vaginal examination. The second ward was devoted to the instruction of midwives, much greater attention being paid to personal cleanliness in this latter place. He made a careful study of the autopsies in the fatal puerperal cases, and was aided by the following incident: in 1847 Rokitansky's assistant died from a dissecting wound. Semmelweis being present at the postmortem noticed that the appearances were much the same as in the puerperal cases, and believed he had found the cause of the high mortality in the first ward. After instituting the proper precaution the mortality sank from over 9 per cent to less than 4 per cent, and even lower than that the following year. Semmelweis is the true pioneer of antisepsis in obstetrics. He was so persecuted by the orthodox obstetricians of the day, that he left Vienna for Budapest, and became professor of obstetrics in the University there. While at this post, he published his treatise on the "Cause, Concept, and Prophylaxis of Puerperal Fever." But his sensitive nature was too weak, and not being able to stand the strain of violent controversy, he died in an insane asylum. He is truly one of medicine's martyrs.

Although antisepsis and even asepsis had been introduced into obstetrics before the time of Lister, the principal did not begin to take hold until surgeons and obstetricians alike began to cleanse their hands in carbolic acid and bichloride of mercury. The first to use carbolic acid solution in obstetrics was Tarnier of Paris, who invented the well known axis-traction forcep.

In 1895, Dr. John Whitridge Williams of Johns Hopkins University published his thesis on "deciduoma malignum" in which he identified the essential cell structures as fetal (chorionic) in origin. Dr. Williams contended for the academic union of the departments of obstretrics and gynecology. Speaking as President of the American Gynecological Society in May, 1914, he said:

"I hope I may live to see the day when the term obstetrician will have disappeared and when all teachers at least will unite in fostering a broader gynecology, instead of being divided as at present into knife-loving gynecologists and equally narrow-minded obstetricians who are frequently little more than trained man-midwives."

But his wish was not granted. The Johns Hopkins University still retains the divided chairs.

So far, I have mentioned the progress made by only a few of our illustrious dead. The tremendous advances in the past few years by those living are familiar to you all. There is still much work to be done. A maternal mortality of the many thousands for the United States is far too great.

In times past the mortality and morbidity attending childbirth was considered as a sort of divine visitation. Even now the bringing forth of the young is sometimes looked upon as purely a physiologic process. If we are to lower this tremendous mortality rate following childbirth and return a mother to her usual place in society within a reasonable time, we must educate our women to the fact that while bearing children may be a physiologic act, it is all too frequently attended by pathologic changes.

DRUGS IN URETERAL AND RENAL COLIC*

THE MISUSE OF DRUGS AND OF DIATHERMY IN THE TREATMENT OF KIDNEY AND URETERAL COLIC

By MONTAGUE L. BOYD, M.D.
Atlanta, Georgia

For the selection of a reasonable method of treatment of ureteral and renal colic it is important to possess a clear understanding of the processes producing the colic, and the limitations of the drugs and procedures which may be advocated for the treatment of such conditions.

It is certainly difficult to understand why the medical profession persists in accepting the advice of representatives of pharmaceutical houses, who not only persuade physicians to use new unproven drugs, but tell them how and for what to use them. It is bad enough to employ proven drugs in the wrong way, but to use unproven drugs, which have not been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, except for experimental purposes, exhibits carelessness and thoughtlessness, if not an actual lack of good common sense.

Other things are difficult to understand. How so highly educated and intelligent a class of men as doctors of medicine could have used, as we did for many years, a urethral catheter with only one eye is almost incomprehensible. That single eye is frequently blocked by the soft bladder mucosa or by a little clot, or a piece of bladder tumor, when two or three eyes would be much more difficult to occlude. One-eyed rubber catheters are still being made and sold in large quantities, because perhaps there is an extra charge of a few cents for additional eyes.

There are drugs which have experimentally and clinically been proven to prevent or cause a cessation of tone and even of contraction of the smooth muscle of the body, and there are times when it is desirable to lessen the activity of the smooth muscle in the ureter by their use.

But there are certain conditions in which such drugs are administered, and not infrequently, where they are useless or actually contraindicated:

(1) In acute kidney and ureteral colic which is due to a ureteral calculus, where the obstruction in the ureter is produced by the stone being arrested in its descent, blocking the ureter by its presence and by the surrounding edema of the ureter which it has caused. The edema is little affected by diathermy and not at all by drugs given to relax the ureter.

(2) Ureteral obstruction due to an edema of the ureter, especially of the mucosa, which sometimes occurs fairly suddenly with a ureteral stricture (an actual stricture where fibrous tissue is present in and about the ureteral wall). Neither the edema nor the fibrous tissue are affected by the drugs which may be given to relax the ureter.

(3) Obstruction caused by extra-ureteral pressure, such as an acute salpingitis or a seminal vesiculitis with perivesical changes, occasionally produces an obstruction in the ureter acute enough to cause colic.

When ureteral colic occurs from a stone in the lower ureter we are then able to see with the cystoscope why it is nearly always impossible to relieve by drugs an obstruction which is caused by a stone lodged in an edematous intramural portion of the ureter. At cystoscopy the ureteral ridge and orifice are seen to be extensively edematous and ecchymotic.

Once the stone is fixed in such a fashion, the obstruction to the flow of urine is so complete that the ureter above the stone and the kidney

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are overfilled with urine. Presumably ureteral peristalsis continues for some indefinite time as does the secretion of urine by the kidney. And these factors, along with the tendency of the kidney pelvis and ureter to resist overdistention, as the result of their normal size, keep up a certain amount of pressure back of the stone, and if the stone is smooth and not too large, and the ureter is not strictured, it will be pushed along until it reaches the bladder or another narrowing is encountered where it is arrested. If the stone is large, or if it is spiculated or rough enough, it is moved with difficulty by the *vis a tergo*, and further descent must await a subsidence of the ureteral edema and a gradual dilatation of the ureter about it by pressure from the fluid in the ureter. A flat or irregularly shaped stone which permits the urine to flow by it fairly freely is passed down the ureter with difficulty.

In the passage of a stone down the ureter the obstruction causing colic may occur gradually. This is suggested by the urine's containing blood which is probably washed down the ureter by urine which passes the incomplete obstruction. And at first a spasm of the ureteral musculature about the stone may assist in producing the obstruction, so that when the pains first start drugs which relax the ureter might do this sufficiently to give some relief from the pain by permitting urine to pass by the stone or even by helping the stone to continue its descent.

If there is a sufficient degree of obstruction to maintain a constant pressure in the ureter, ureteral peristalsis stops and the kidney ceases more or less completely to secrete urine, and the pain from overdistention then subsides. This condition is maintained until the obstruction is lessened enough to permit the retained urine to escape and relieve the overdistention, or the overdistention may be relieved by ureteral catheterization.

There are, of course, conditions in which the administration of drugs for the purpose of obtaining ureteral muscle relaxation is desirable. An example of this is ureteral colic following ureteral instrumentation where the pain is due to spasm and not obstruction. Such colic or pain is caused by two things. Where the pain starts shortly after the introduction of ureteral catheters and persists for varying periods after their removal, ureteral spasms have no doubt much to do with the pain. But, where the pain starts some hours after catheterization, the cause is usually an obstruction due to an edema of the ureter which has been produced by trauma from the passage of the catheter. This edema is usually at some part of the ureter which has been narrowed by inflammation or stricture, nearly always the lower end of the ureter. Evidence that trauma caused by the passage of large or rough catheters results in edema of the ureter, can be seen at cystoscopy for several days after such a ureteral catheterization. The ureteral meatus, and often the ridge about it, is edematous and perhaps ecchymotic. If the edema is at all extensive in a ureter narrowed by inflammation or stricture or congenitally, pain or severe colic nearly always results.

Of course both spasm and edema occur in some cases, and in some of these patients relief is obtained by drugs which produce a relaxation of the musculature of the ureter, so that their employment is probably indicated, but trauma severe enough to produce the pains can nearly always be avoided, and it is very rare that such a complication occurs in my patients.

Surely, the administration of drugs to produce relaxation of the ureteral musculature in ureteral and renal colic should be more intelligently directed than at present, which is, as a rule, I should say, quite unintelligently.

The pain in renal and ureteral colic is due essentially to the overfilling of the ureter and the kidney with urine. Similar pains can be produced by overfilling the kidney and/or ureter through a catheter with salt solution. Narcotics are effective in giving relief from the pains, although sometimes large doses are required.

Morphine tends to produce a spastic condition of the smooth muscle of the ureter as well as of the bowel, and atropine in moderate doses counteracts this tendency. Therefore, in ureteral colic the use of atropine is indicated whenever morphine is prescribed for the relief of pain. This is especially the case in the early stages of colic when the pain may be due in part to overactivity of the ureteral musculature.

The relief of pain by diathermy, in the cases discussed above where the obstruction is temporarily unrelievable, is little more effective if any, and much more expensive than the relief afforded by a hot tub or hot moist and even hot dry applications. Ten or twelve years ago Dr.

Ludwig Amster of Atlanta came back from a long stay in Europe convinced that diathermy would cure or relieve many things, among them ureteral colic due to stone in the ureter. He installed a most elaborate and expensive diathermy outfit in the Piedmont Hospital and I gave him ample opportunity to try his treatments on patients having ureteral colic, with the result which might have been expected. The heat gave varying degrees of temporary relief from pain but little if any more than I was obtaining by the other methods of heat applications, and in no instance was there evidence that diathermy had a proven efficiency in controlling the pain through relaxing the ureter so that the obstruction was diminished or relieved. Nor was there definite evidence that the passage of the stone was facilitated by the use of diathermy.

It can be reasonably concluded, I believe, that there are many cases of ureteral and renal colic in which the use of diathermy and drugs, which produce ureteral muscle relaxation, is more or less useless, while only in a few cases such drugs and procedures may be or actually are of use. In many cases the immediate employment of ureteral catheterization, and at times a retention ureteral catheter, is indicated since in that way immediate relief is obtained, and maintained if the catheter is left in the ureter. A catheter left in for several days often causes dilatation of the ureter about the stone which, therefore, has a chance to pass more rapidly down the ureter after the removal of the catheter.

AN AMERICAN HEALTH PROGRAM*

By NATHAN B. VAN ETTEN, M.D.†
New York, New York

The battle of the ballots has been won by our national administration. The adjectives of invective and recrimination and adulation have all been harmlessly exploded. The camp fires have been extinguished and the warriors are again united in the common cause of defending the nation and in promoting its advantage and security as the last and only surviving peaceful democracy.

There is so much to be done in organizing for peace or for war that every man, woman and child in the United States is stimulated to adjustment to new ways of life.

We are not the same care-free people that we were before the sixteenth of October, 1940. The inexorable hand of conscription has turned the door handles of every home, of every occupation, of every industry and of every profession.

The plans of youth have been temporarily dislocated. Added burdens have been laid upon the shoulders of all workers and the placid dreams of age have been troubled.

We have once more tuned our radios to foreign wave lengths and turned watchful eyes upon our domestic order.

We know that acquisitive eyes are studying every move which may contribute to their material advantage. We have learned from history of the triumphs of the stronger over the weaker materialists.

We know that world civilization is sick and needs physicians who are competent to cure the hysterias of cruelty, of fear and of despair and discontent.

We have seen that reversions from democracy to autocracy in Europe seem to have been caused by long disintegration of character by subsidizing the discontented to gain their support of governmental control under paternalistic ideas.

If we are wise we must apply these lessons to our own evolution, not only to the peculiar problems concerned with our cosmopolitan society, but to the development of the special fundamental social problems concerned with the protection of the physical, mental and moral health of our people.

The physicians of the United States have made history. Campaigns against tuberculosis and diphtheria and pneumonia and syphilis have changed the health statistics of our nation to figures that could not have been predicted twenty years ago. We know that an intelligent medical profession can educate the people in personal and community health.

Although we have come to a time when every health agency must be mobilized for national defense, we must not only consolidate our gains, but we must push forward with objective plan-

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*Read in General Clinical Session, Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, Kentucky, November 12-15, 1940.

†President, American Medical Association.

ning which under normal conditions might carry us to new heights of distinguished service.

We must not be content with things that are, but look toward things that might be better.

Organized American medicine is one hundred and eighty-eight years old, dating from the organization of the first hospital in Philadelphia in 1752. Medical services inspired by medical societies have followed lines developed by local needs such as those for the relief of communicable disease, or for hospitalization. Medical services for the general needs of the public health have been set up, as demands appeared, in one governmental agency after another without any long vision of the whole problem and a mass of duplicating machinery has resulted which hampers efficiency.

We have come to a place where national planning seems to be a vital necessity.

May I ask you to take this matter seriously and look to the medical profession instead of to professional politicians to write the health programs for America?

You are justified in expecting the education and experience of the medical profession to evolve new procedures for the delivery of better medical services.

The times are ripe for change and we must begin at once. Some of our clothes are outmoded. Thomas Jefferson said you cannot expect a grown man to wear the coat cut for him when he was a boy.

In 1875, the American Medical Association asked for a secretary of health in the cabinet of the President and has timidly restated its desires at various sessions of the House of Delegates.

Last year in the first session of the Congress on March 6, 1939, Mr. Pfeifer introduced a bill, No. H. R. 4791, "To Establish a Department of Health." This bill was referred to the Committee on Expenditures in the Executive Department, where it still reposes. It was, however, a first step in the National House of Representatives toward coordinating the health functions of our national administration which are now scattered through many separate bureaus and major departments.

If local health departments have proven their value, if state health departments have become indispensable, why has a national health department been so long postponed?

Coordination of all federal health agencies except those of the Army and Navy seems a logical thing to do. The health of our people should be the honest concern of the chief executive. And the health authority should be a member of his cabinet.

I should like to see a new national department to be known as the Department of Health. I should like this new department to include the following bureaus:

(1) Public Health

(2) Infancy and maternal welfare to be transferred from the Labor Department

(3) Rehabilitation of veterans

(4) Research

(5) Licensure

(6) Care of indigents

(7) And other divisions to care for all other health responsibilities, fusing all departments into one less expensive to operate, and eliminating the confusion of overlapping and duplication.

It seems to me to be timely to drop complicated and antiquated methods and attack the problem courageously and efficiently.

Infancy and maternal welfare developed in the Department of Labor in response to wide outcry against child labor. Its objective has been largely realized and now requires a wider and more general type of direction.

Rehabilitation of veterans, developed under a stimulated emotional campaign, is now well established. Hospitals are widespread and may well have a broader significance with the passing of time under a department of health.

Appropriations for research are now vested in the bureaus of public health and in appointed committees. I believe that the value of such work would be greatly enhanced if these studies were coordinated in a department of health, where voluntary agencies, such as medical schools, voluntary hospitals and philanthropic foundations could cooperate in directly helpful service for the information of the Government.

The National Board of Medical Examiners might fit into a function of a National Health Department.

Medical care of indigency looms as one of the

most important functions of government. A concert between local agencies through some new type of local, state and national machinery could well be headed in a national health department.

The migrating indigent is one of those for whom no local agency is willing to assume the responsibility. They are pushed from state to state and travel from one seasonal employment to another.

I am told that there are now in California 385,000 of these unfortunate people; that 15 per cent of them are suffering from open tuberculosis and that 2 per cent of them are active syphilitics.

No health insurance scheme can take care of such people who can make no regular contribution to any compulsory or government financing. Their care must be centralized. Would there be a better place for this work than in a national health department?

It would seem to be ideal to choose a career man to head this department.

There is reason to feel that those who are to direct public health administration should be specially trained in the science of administration before entering such a field.

I believe that the Secretary of Health should be a physician who has had enough experience in the practice of medicine to know the viewpoint of the patient as well as that of the physician. He should not be a political theorist.

There is evidence of a concerted drive for a general service to the sick, both preventive and curative, supported by taxation and under Government control.

There is frequent reiteration of a desire for free medical care, patterned after free public education: all doctors salaried by the state, a complete system of state medicine. There seems to be no limit to the belief that the public purse will be able to pay for it, even in the presence of evidence that state education is already too costly for the public pocket, regardless of the fact that school budgets are now the subject of acrimonious debate and regardless of the mounting national deficit.

Prohibitive cost means nothing to strabismic political dreamers.

A new program must provide something better and simpler than these excursions into Utopia.

I believe that needs for help should be discovered in the smallest political subdivisions, but that the federal authority should be called upon as infrequently as possible.

I believe that medical service to the economic indigent and to the medical indigent is the problem of the taxpayer.

I believe that medical service to those two classes of people should be administered by the medical profession and that the physicians who do this work should be paid by the taxpayer.

I believe that medical service to other people of low income who are able to pay for ordinary but not for catastrophic illnesses should be shared by the medical profession and the taxpayer. The medical profession and the taxpayer should provide such needed medical service in tax-supported institutions either free or at minimum rates.

I believe that every effort should be made to provide for the average man so that he can prepare for emergencies without throwing himself upon the sources of charity.

Neither creed nor race nor color should deprive any American of the benefits of the best of clinical medicine, but the manner of its delivery should evolve from simple formulae. The formulae should grow from the needs of the people as discovered by the family physician, the health officer, the public health nurse and local welfare workers.

The formulae should grow into workable being in an orderly way which will require a period of time for short steps before long strides are taken. Much laboratory work must be done, as recognized by the President in his proposal to build small hospitals in regions where they are needed. This proposal is in harmony with the new platform of the American Medical Association.

It is a stimulant to local initiative to operate a facility erected by the Government for the benefit of the locality.

It is interesting to note a growing interest in and support of the new program of the American Medical Association. Senator Taft has expressed the hope that the Medical Association or some of its friends would introduce a bill into Con-

gress embodying these basic principles. Other legislators have joined in the opinion that this is desirable.

From a powerful force within the administration has come the utterance of the Federal Security Administrator, the Honorable Paul McNutt. Speaking before the National Health Council on February 15, 1940, I quote a few paragraphs from his speech which reflect a new line of thought in Washington:

"Our ultimate objective must be to attain the highest possible level of health for all of our people.

"One important means of reaching this objective is the unification and coordination of health agencies at the Federal, state and local levels. The American Medical Association and the American Public Health Association have recommended the integration of health services under one cabinet officer, preferably a secretary of health. A first step has already been made toward functional coordination by the creation of the Federal Security Agency.

"Functionally, the agency is the beginning of a combined department of health, education and social welfare. There still remain separate departments of the Federal Government, although these same activities in the states are administered by a single agency.

"It is my firm belief that the first objective should be to coordinate the Federal health services. I fail to see how a national health program can be administered adequately with three Federal bureaus making grants for the control of different diseases and different groups of the population. Confusion and duplication of effort is bound to result. Not the least confused will be the ultimate beneficiary, whose health problems are artificially segregated according to his age and the nature of his illness."

At this time, when our public servants in the legislatures and in high governmental places seem to be concerned about our health, it would also seem appropriate for those who really know the defects of medical service in their home localities to step out of their *laissez faire* attitude, become vocal and tell their public servants what the real needs are.

Let physicians take the leadership for which their education qualifies them. Let them emerge from their conservative shells and demand sane and progressive action for better conditions of medical service, and let them educate all the people in their own communities and ask their cooperation in developing sound programs for American health.

In the spirit of such an ambition let us face the dark hour of the world crisis. However horrible the European fratricide which stirs our emotions deeply, let us keep our eyes open and our ears alert to our own opportunities for patriotic service. Let us not bury our heads in the sand. Let no one lull us to sleep with stories of security. Let us rise to our common responsibility with renewed energy.

Away back in the era of Babylonian culture practitioners of healing arts were compelled to organize themselves for the protection of the people against the deceptions of charlatans and quacks. That was four thousand years ago. The need for a rededication is upon us now.

The autocratic quackery of Hitler, Stalin and Mussolini must be resisted with all our strength.

Wishful thinking is feeble resistance. A Scotch minister prayed:

"Oh, Lord, we pray Thee to convert Hitler to the ways of civilized peace. If that cannot be Oh, Lord, we pray Thee to take him to Thyself."

Crystallizing American opinion into a determination to stop a Frankenstein would prevail because of the strength behind it.

In the year 90 A.D. the Roman Empire extended from the English Channel to the Red Sea. A little man named Paul, 5 feet 3 inches tall, was a prisoner in Rome. He was a giant ferment which stimulated the growth of Christianity into one of the potent forces which stopped the march of paganism. We need a St. Paul today.

Two thousand years ago medical thought was crystallized into adherence to the Hippocratic oath. Its cohesive altruism has survived the rise and fall of many civilizations, until today the ideal of devotion to the service of all mankind is stronger than ever. Although I believe that this is peculiarly true of the American medical profession, which is always giving freely of its scientific effort to salvage the sick, I fear that we must have somehow failed in our feeble acceptance of our responsibility as citizens.

A new generation of people has grown up in Germany which has been so saturated with paganistic ideologies that they have thrown aside the inhibitions of all religions except the irreligious nihilism of force which they worship and deify as "Welt Macht." Ruthlessly they are

now marching over the democracies of the world, destroying all who do not conform to the brutal demands of their insane leader.

Germany is no longer the Mecca for advanced education. The masters were driven out by the lash of paganism and medical education has lapsed below mediocrity. The medical course was cut to two years in 1939, and quacks and nature healers were legalized.

German scientists, paralyzed by fear or starving in concentration camps; German youth hardened into determined machines concentrating upon a single objective, world domination, present a picture all of the patterns of which are painted a lurid red.

Norway, Holland, Belgium, France, all betrayed by privileged visitors, masquerading as friendly workers: how many such despicable criminals do you think may be now undermining the British Empire?

The United States of America has already been invaded. Advance columns have exerted subversive influences in every part of our country; have sabotaged the mind of youth and even boldly drilled in uniform.

Many of you remember that these organized movements have been actively going on in this country for the last twenty-five years.

Do you remember that a colored regiment was detailed to guard the treasury of the United States in 1917 because it was the only one which was surely 100 per cent American?

Some of you have personal knowledge of the effects of this quarter of a century of foreign propaganda.

I have heard full approval of Hitler from an important retired American officer and within a few weeks the expression of a distinguished banker that he waits with impatience for an American dictator.

The ideals of popular government which were promoted by Washington, Jefferson and Lincoln are remembered only in political oratory. Petty dictators are already here. Our intelligentsia are lazily surrendering the domination of our great cities to organized gangsters. Shall we awake before it is too late?

It is very late to withdraw our hospitality from those foreign visitors who now enjoy the safety of asylum, but every effort should be made to convert them to an appreciation of the benefit of living in an advanced democracy. Failing in this, they should be returned to the source from which they came.

Every potential leader of public opinion in the United States must be mobilized to defend our country against ideas which are destroying the values of our civilization.

All professionals, every physician, every dentist, every pharmacist, every lawyer, every clergyman, every teacher, every trained nurse, every trained thinker, must be enlisted in a continuous campaign of defense. Defense against disease is quite as important as defense against a military enemy, but defense against those forces which are destructive of our religions, of our faith in God and in our fellowman is vital to the preservation of the sanctity of our national life.

It cannot be a short campaign, not less than twenty years. Every physician must become conscious of his civic obligations. Youth must be inspired and our crusading spirit must be revitalized.

I am hopeful that all loyal Americans will present a united front in a battle for the triumph of the spirit of democracy in the United States.

If we do this I am confident that we shall prevail.

BUILDING HEALTH DEFENSES*

By THOMAS PARRAN, M.D.†
Washington, D. C.

As physicians we are servants of peace. As a nation we are committed to a policy which will achieve it. In the words of our Secretary of State, we strive to grow strong that we may be secure, and having become secure we may be at peace.

It is not necessary for me to detail to members of the Southern Medical Association the basic fact, well known to all of you, that no defense effort, however great in terms of munitions,

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*Read in General Clinical Session, Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, Kentucky, November 12-15, 1940.

†Surgeon General, United States Public Health Service.

armament and supplies, can be securely successful except when implemented by men who are sound to the core, and when sustained by a civilian population which has the vigor and competence of positive health.

The physicians of the South were the first in this nation to roll up their sleeves and work at the public health job. From the days when the scourge of yellow fever radiated from the ports, through the fight against pellagra and hookworm disease, in the never-ending war of attrition on malaria, Southern physicians have needed no exhortations to organize their own communities and assume leadership to work cooperatively with state and federal officers against whatever threat loomed ominous to the health and well-being of the people they served.

It is for this reason that I am particularly glad to have the opportunity to talk to you today; for you know by experience that all sound and lasting health defenses depend more largely upon skillful work and good organization in the community than upon execution of plans from a national center. Plans must be made; we must not forget our perspectives; but this is a teamwork job.

A good physician may make mistakes, but he rarely makes the same mistake twice. And although some fine results were attained in the health and medical effort attending the 1917-1918 mobilization, the progress of medicine has been so great since then, the facilities for public health so much more abundant, the successful cooperation between health officers and practicing physicians so much more extensive throughout the nation as well as in the South, that now we should be able easily to avoid the mistakes of twenty-odd years ago and to do a much more competent work.

Certain advantages are obvious. We are preparing not for war, but for what appears to be a long-time mobilization of manpower and productive resources which will keep war at a safe distance. We start in with a protective naval strength which far exceeds that of 1917. Thanks to the magnificent staying powers of Great Britain, we have a certain amount of time to organize and get under way. We dare not be slow. We need not be precipitate.

On many fronts we have made a good start toward conserving our manpower. Since 1935, through the provisions of the Social Security Act, an efficient health partnership has been developed between the Federal and state governments. The mechanism for protecting health and preventing sickness has been strengthened and extended to a degree never before attained.

During the first World War we had practically no organized rural health departments. The great majority of the cities had only skeleton organizations. Many state health departments were politically dominated, poorly organized, and served by a meager, part-time staff. Most of them were without such vital service divisions as a laboratory, sanitary engineering, epidemiology, industrial hygiene, or maternal and child care.

Today there are 1,577 county health departments directed by full-time, trained physicians. The cities also are better organized, though their progress has been relatively less. Adequate defense on the health front requires trained personnel no less than a modern mechanized army. In every state, now, there is a competent health organization with trained personnel in charge of all major service divisions. During the past five years Federal help has made it possible for the states to give special training in public health to 5,017 persons, many hundred of these having received a full year of postgraduate training.

You know the great military importance of the venereal diseases. Syphilis and gonorrhea are prime wasters of manpower, destroyers of the effectiveness of the Army, the Navy and the Air Corps personnel and of the civilian forces engaged in essential industries. Incomplete official records show during the last war a total of 6,804,818 days of service lost in the United States Army, equivalent to a year's continuous absence from duty of almost twenty thousand men. In the Navy and Marine Corps, venereal disease accounted for 687,792 days lost from duty, which is equivalent to the absence from service of almost 1,900 men for a year. Because of the excellence of the Army and Navy medical corps, this total, staggering though it seems, was less than that suffered by any of the armed forces of any other nation engaged. One of our public health mistakes at that time lay in the fact that funds, personnel or facilities were not set up in time to protect the armed forces from infection during the training period. We have made substantial progress since then.

Every state now furnishes a free laboratory diagnostic service to all physicians. Expensive drugs for the treatment of patients are distributed to all physicians. In 2,887 clinics competent diagnostic and treatment service is available; in most of them, epidemiologic investigations are made to seek out the sources of infection and bring them under treatment.

As a result of these efforts against both diseases, plus the more effective modern chemotherapy of gonorrhea, a substantial decline can be recorded in the new cases of syphilis and gonorrhea during the past year. Yet unless we redouble our efforts, mobilization will reverse this favorable trend.

Realizing that control of the venereal diseases among the military forces necessitates coordination with the civilian health authorities, an agreement has been reached between the Public Health Service and the War and Navy Departments concerning cooperative control measures. During the extensive military maneuvers earlier this year, an active campaign for health protection of the troops was carried out jointly by the military authorities, the Public Health Service, and the several state and local health agencies concerned. Water and milk supplies were safeguarded, the sanitation of food establishments assured, and venereal diseases controlled. An example of the effectiveness with which this can be done is in Wisconsin where, during maneuvers involving 60,000 men over a period of 30 days, only four cases of gonorrhea occurred and not a single case of syphilis.

A much more complicated problem is developing around many of the troop concentrations, however, a great number of which are in the South. Therein lie responsibilities for all of us.

With the approval of the President, the Council of National Defense recently appointed a Health and Medical Committee under the chairmanship of Dr. Irvin Abell. It is the task of this Committee to coordinate all health and medical activities in the country which are related to national defense and to advise the Council regarding policies on the whole health and medical front.

A good beginning can be reported in the fulfilment of these tasks. Among many urgent matters being considered is that of aviation medicine, for the study of which a committee has been authorized under the National Research Council. One of the vital defense tasks to which medicine must contribute is the proper selection and training of airplane pilots. Defective material in plane construction can be detected. Can we do as well to find the best among the men who are to man the machine? In this, as in other tasks, our problem of finding and developing fit manpower, with all its physiologic, psychologic and medical implications, is far more difficult than the production of machines for war. Complete blueprints can be drawn for the most complicated machines. Contracts can be let with detailed specifications. Mass production can be started with continuous, authoritative supervision over accuracy of performance. In our health and medical defense tasks, such centralized and exact procedure is not possible.

We know some of the general rules. We must catch up on the lag, not only in areas of troop concentration but in each of our communities, between what we know how to do for health and fitness and what now is done. We have certain specific and immediate tasks for the execution of which we can supply from Washington only the broad outlines of what needs to be done and the recommended methods of doing it. Some technical and financial aid can be given, but the major part of the job must be done by physicians and health officers working together in the 48 states and the 3,000 counties. There the broad general policies must be translated into effective service. There, we must put to work, fully, for the first time in the history of our nation, all of the facts of medical science which are known to conserve and upbuild the health of our 130 million citizens.

I emphasize the word "upbuild." As physicians we have been busy with the prevention of disease and the cure of the sick. But from the latter-day findings of science, we can no longer assume that the absence of disease necessarily means positive physical fitness. We must emphasize as well what can be done to create a stronger, tougher, more competent race of people. To do this means the mobilization of the medical and health resources of the country, not in the sense that the army is mobilized for a national purpose, but on the home front, to bring the maximum of physical fitness to all.

Let us consider only a few of the tasks. Many of you come from communities where there are,

or soon may be, industrial plants essential to defense needs. Protecting the health of the workers in those industries has become as important as protecting the health of the military forces. Many small communities are growing overnight to substantial size. The population of practically all industrial centers is increasing rapidly. Such major shifts in population introduce emergency problems of housing, of sanitation, of hospital, nursing and medical care. They require increased measures to prevent epidemics. Already in certain areas, much needed skilled workmen have left jobs where they were making essential supplies for defense, only because they would not live where they and their families found few of the services or facilities for decent, healthful living.

Obviously, this turnover slows up production. It is obviously preventable. Production is likewise slowed up by preventable disease having its origin in the factory or the community. These factors are urgently important now, for in many essential crafts it takes even longer to train a skilled workman than to train a good soldier.

Production is slowed up by preventable industrial accidents and disease. This problem, too, is being dealt with by a special committee on industrial health and medicine functioning under Dr. Abell's group. But no matter how authoritative their findings, upon the shoulders of medical leaders like yourselves will be much of the responsibility for putting them into effect. There are not nearly enough experts in industrial health in the country to go around. Many of you act as consultants on industrial problems in your own communities. Many of you have great influence with the owners and managers of industry without whose understanding of the problem and cooperation with the health standards of the community industrial hygiene measures are only academic. Are you yourselves up-to-date on the health hazards arising from the many new chemical processes, the high speed and tension of work on the assembly line, or other factors in modern mass production? Successful production in industry and health standards in the community are closely interrelated. No one can have such impact on these problems as yourselves.

I spoke a moment ago of probable troop concentrations in the South and intimated that not in all areas were the problems of venereal disease control being handled as effectively as Wisconsin started out to do. Among the general population, work is steadily improving as to facilities, trained personnel to handle the job, and a good working relationship between health officer and physician. The troop concentrations bring special problems, however, which we as physicians are not always prepared to meet. Many local authorities are tolerant of prostitution areas in which are found the foci of infection for a large part of the gonorrhea and syphilis occurring among troops and trainees.

Without civilian cooperation, the Army can control conditions only upon the military reservation. Without attempting to regiment the lives of your communities from Washington, here is our opportunity to see how well democracy works by a demonstration of what realistic physicians, health officers and local officials can do together to clean up this situation and to prevent disease at the source. From a purely practical point of view, it will pay us to do it. The Veterans' Administration estimates that in the last 18 years, beginning five years after the War period, it has poured out not less than $82,000,000 in payment of compensation, benefits, medical care and hospitalization of conditions due to the venereal diseases.

Under Dr. Abell's Health and Medical Committee there is also a group of hospital experts who are taking stock of our resources so they may be utilized to the best advantage and new facilities may be provided when needed.

More than ever we need to be on the alert for epidemic diseases. The history of influenza indicates that we are approaching the end of another cycle. We must not be as unprepared to meet another influenza epidemic as we were in 1918. Since that time knowledge of the disease has increased. The virus of influenza A has been isolated and a vaccine produced which, from laboratory tests, promises hope of value in protecting against this type of the disease. The more recent isolation of influenza B virus encourages the hope that immunization against it also may be possible. Whether or not these

hopes are realized, we should at least organize in every community to take care of an influenza epidemic, an epidemic of other serious disease or any community disaster.

For many years, we in the South have been free from the devastations of yellow fever. Yet the jungle type of this disease is prevalent in endemic form over wide areas of South America. One can fly from Miami or Brownsville to yellow fever foci in South America and be back again within the incubation period. Since the development of airplane travel the Public Health Service has been keenly aware of this hazard. To guard against it, inspections are made and fumigations performed of every airplane before departure from South American ports. On arrival in Panama, Puerto Rico and continental United States, additional fumigation is done. The operating personnel of the airplanes have been immunized against yellow fever, and immunization has been offered to commercial travelers who frequent yellow fever areas. A health transit card is required of all passengers in infected areas. Temperatures are taken of all passengers upon arrival. Intensive Aedes control work has been done around all airports of entry. Of great importance have been the efforts of our Latin American neighbors themselves. In the health field, Pan American cooperation is an established fact. Each of the American republics is signatory to sanitary agreements to expedite commerce and prevent disease spread. Through the Pan American Sanitary Bureau, the joint health service agency of all American republics, and their eight well-trained health envoys who supervise the work, great improvements have been made. For example, epidemic yellow fever has been kept out of all South and Central American ports for a number of years. In fact, some of their sanitary efforts are more thorough than our own.

Building toward closer health cooperation in the future, 20 physicians from Latin American countries are taking postgraduate courses in this country under governmental sponsorship.

The operation of the Selective Service Act brings other new problems. With Federal aid, state and local facilities are being used to make serologic tests on all men examined by physicians serving local draft boards. As yet, similar effective methods are not being used to detect cases of tuberculosis by routine x-ray examination. Nevertheless, many such cases will be discovered. This raises immediately the question of facilities for their treatment. It would be poor policy for us to repeat the mistake of the last war when active foci of infection were sent back home to work in industry and spread tuberculosis among families and associates.

Selective Service examinations also will reveal many correctible physical defects. For this reason, many men otherwise able and willing to serve their country will not be able to fulfill this obligation of citizenship. The state health officers have urged that the Federal Government provide care for defects which are easily correctible. No legislation or money has been secured for this purpose as yet. Here is a measurable and very important job which the medical profession and the hospitals in many communities can undertake. I hope you will make it one of your first concerns.

From the newer scientific knowledge, it has become apparent that underlying all considerations of disease prevention and cure is the vitally important matter of proper nutrition. We are beginning to learn how to feed for fitness. We are beginning to learn that many persons without clinical evidence of disease are incompetent for the nation's need and inadequate to meet their own problems because of various forms of malnutrition.

In the whole problem, and it is an enormous one, deficiencies in the vitamin B complex are the most serious. Of the several known factors in the complex, the shortage of vitamin B_1 is probably the most widespread. Among large population groups in the South, the most acute problem is that of pellagra.

Great Britain has found it necessary to add thiamin chloride and calcium to all flour consumed there. It should be possible for us to enlarge our national dietary in vitamin B by conserving it in the milling of grain, and by further enrichment through the addition of the specific factors in which our diet is known to be deficient.

We have an agricultural capacity in this country greatly in excess of current consumption and

fully adequate for all our nutritional needs; yet every survey of nutritional status, by whatever method conducted, shows that malnutrition is widespread and serious. It is to be hoped that within a short time we may establish a national nutrition policy; but again, it seems clear that such a policy can be implemented and put into effect, as in the case of the several health defense policies I have mentioned, only by action on the home front, mobilized and led by physicians who have the perspective of both the citizen and the scientist.

It would be easier for all of us, perhaps, if some master mind were to work out a gigantic blueprint defining the task and specifying the next steps for you and me in this great human responsibility which confronts us. But the thing we are willing to fight for, if we must, is the sharing of responsibility for the common good; for the co-partnership among men of good will and intelligence for the ends we all agree upon, but which must be worked out by methods as diverse as the thousands of communities to which they apply.

Once we can set aside our Anglo-Saxon custom of preferring to go along with business as usual until calamity is upon us, we have nothing to fear. Your job, as physicians in the South, is the home front. What do you offer your troop concentrations? The workers in your industry? How will you face epidemics? How fit are your citizens? How will you rehabilitate the rejects from your own registration boards; how make them fit to serve the nation again, whether in the ranks or in agriculture or industry? Beyond all, how well are we using the food that we have?

These are some of your tasks. My task, and that of the other men who serve you in Washington, is to report to you recommendations from the best minds we can find; to give you technical aid and service to the extent of our capacity and that of the organizations we represent; to receive from you suggestions and advice, and, above all, facts about the things which hamper you in your leadership of the community toward health and service for the nation.

The nation never needed us more. Let us help one another to build her to strength.

THE NAVAL MEDICAL OFFICER'S PUBLIC HEALTH ACTIVITY*

WITH SPECIAL REFERENCE TO NATIONAL DEFENSE

By CHARLES S. STEPHENSON, M.D., M.S.†
Washington, D. C.

In normal times the civilian health officer seldom sees his Naval contemporary for the reason that the Naval medical officer is busy with the highly specialized and complex tasks in our domestic shore stations, our stations beyond the seas, or has gone down to sea with the fleet. Hence, the scope of interest of the Naval medical officer is seldom recognized. In peace we may be somewhat complacent as we can always find plenty of physically fit men for the Navy's needs. But in preparedness programs, or come war, it is of vital concern that a healthful population be maintained to provide men for the military service, and to protect them from communicable diseases when ashore so that they may remain physically fit for their share in the defense of the nation.

These are not normal times. Wars are no longer declared; they just happen. The fire of war in Europe has spread from the bleak shores of the Arctic Ocean to the Black Sea, and in Asia from the desolate wastes of Mongolia to the strands of the South China Sea. War, a picture, a dreadfully fantastic picture, is being painted by an old man called Life. And no one can guess where or when this war will spread. One of the phases of this picture is the bulwark of preventive medicine. We must define some of the problems and insist that the artist place them in their proper perspective.

Thomas Huxley once summed up the scientific creed in a single sentence:

"God give me strength to face a fact though it slay me."[1]

The fact that must be faced is that our nation

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*Read in General Clinical Session, Southern Medical Association, Thirty-Fourth Annual Meeting, Louisville, Kentucky, November 12-15, 1940.

†Commander, Medical Corps, U. S. Navy; in Charge, Division of Preventive Medicine, Bureau of Medicine and Surgery, Navy Department.

must bring about in the shortest possible time a great increase in its armed forces. The manufacture of equipment necessary for our national defense will require enlargement of existing industrial establishments and the creation of new industries. This combined effort will mean the largest movement of population in our history. This rearrangement of population will create many health and social problems. The greatest single health problem today is syphilis and the most troublesome social problem is prostitution. These problems concern both the military forces and the civilian community.

The Naval medical officer cannot single out any one disease for his attack, but must concentrate on the whole field of venereal disease.

From whatever viewpoint considered, the venereal diseases present the largest preventive medicine problem confronting the military surgeon. They surpass in magnitude and administrative significance all other communicable diseases.

Surgeon General Parran has performed a magnificent public service by focusing attention on the gravity of syphilis as a public health problem and breaking down the prudish taboos preventing free and open discusssion of this health menace. In order that gonorrhea may be properly appreciated as a waster of military manpower, it would be well to point out that the Navy lost 349,282 sick days from gonorrhea in 1917 and 1918, while the loss from syphilis was 229,499 sick days. We now need a medical Godiva to ride herd on the gonococci until the universally understood ribald word "clap" has been driven out of the chimney corner for a concerted attack by the chemotherapeutists who threaten its subjugation.

From January 1, 1900, to September 23, 1940, nearly 41 years, there have been 4,525,580 person-years in the Navy, and they have accounted for 488,233 original admissions to the sick list with the venereal diseases. Of this number, 80,142 were for syphilis, 290,292 for gonorrhea, and 100,081 for chancroid.

Table 1 shows the mean strength, admissions, admission rates per 1,000, and noneffective ratios per 1,000 for venereal diseases in the 41-year period 1900-1940. The marked increase in the admission rate for 1909 has been attributed to a change in policy in that year. Prior to 1909 men were not admitted to the sick list for venereal disease, unless they were incapacitated for duty. There is little of interest in the fluctuation in rates from 1909 to 1917.

VENEREAL DISEASES, U. S. NAVY, 1900-1940, MEAN STRENGTHS, ADMISSIONS, ADMISSION RATES AND NONEFFECTIVE RATIOS PER 1,000

Year	Average strength	Admissions	Admission Rate per 1,000	Noneffective Ratios per 1,000
1900	23,756	1,723	72.53	6.12
1901	26,873	1,942	72.27	5.63
1902	31,240	2,205	70.58	5.31
1903	37,248	3,070	82.42	5.87
1904	40,555	3,905	96.29	5.70
1905	41,313	4,353	105.37	5.50
1906	42,529	5,364	126.13	5.94
1907	46,336	4,499	97.10	4.50
1908	52,913	5,388	101.83	4.17
1909	57,172	11,064	193.52	6.68
1910	58,340	11,469	196.59	6.48
1911	61,399	11,271	183.57	7.29
1912	61,897	10,580	170.93	6.54
1913	65,926	9,434	143.10	5.88
1914	67,141	10,932	162.82	5.84
1915	68,075	10,318	151.57	6.08
1916	69,294	10,261	148.08	6.56
1917	245,580	21,786	88.71	2.58
1918	503,792	35,364	70.20	2.50
1919	298,774	33,350	111.62	5.12
1920	140,773	17,763	126.18	4.66
1921	148,861	17,871	120.05	4.60
1922	122,126	15,554	127.36	4.96
1923	116,565	14,376	123.33	5.06
1924	119,280	16,409	137.57	4.94
1925	115,391	14,604	126.56	4.47
1926	113,756	13,516	118.82	4.44
1927	115,316	15,253	132.27	4.72
1928	116,047	14,403	124.11	4.63
1929	117,388	14,968	127.51	4.76
1930	117,453	15,728	133.91	5.15
1931	112,767	15,425	136.79	5.29
1932	110,717	14,794	133.62	4.74
1933	108,183	11,083	102.45	4.52
1934	109,383	9,875	90.28	4.18
1935	114,188	8,530	74.70	3.68
1936	124,408	8,148	65.49	3.49
1937	132,855	8,490	63.90	3.18
1938	139,216	10,782	77.45	2.85
1939	149,618	12,847	85.87	2.87
*1940	181,136	9,532	71.87	1.82
Total	‡4,525,580	488,233	†107.88	†4.33

*Up to and including September 23, 1940.
†Weighted average for the 41-year period.
‡Person—years.

Table 1

During World War years there was a marked decrease in reported cases. There are two logical explanations for this reduction. One is that the efforts of the law enforcement agencies, the social hygiene groups, and the Army and Navy authorities resulted in the lowest venereal disease rate of any of the belligerent forces. Despite this splendid record, the Army, Navy, and Marine Corps combined had 157,146 more new cases of venereal diseases than there were wounds in battle. The armed forces lost 7,492,510 sick days, or the equivalent of nearly 20,600 men absent from service for a whole year. Expressed in terms of ship complement, there were enough days lost to man five huge aircraft carriers and nine World War type of destroyers.

Hugh Young,[2] reporting on his European study of World War venereal disease conditions, states:

"We found several large hospitals devoted entirely to the treatment of these infections. All men found to have venereal disease were immediately evacuated from the front, or wherever their organizations were located, and sent to the nearest venereal disease hospital, where they remained for an average of 46 days. There were 23,000 hospital beds at that time occupied by these cases, amounting to approximately two whole infantry divisions in the British Army. The loss of manpower to fighting forces was tremendous—70,495,000 soldier days per year."

Table 2 shows the admission rates per 1,000 for syphilis in the period 1900-1940. In the (nearly) 41-year period there were 80,142 admissions, or an average of approximately 2,000 new cases each year.

Table 3 shows the admissions and admission rates per 1,000 for gonorrhea for the (nearly) 41-year period. In this period of time there were 290,292 new admissions, or an average of more than 7,000 per year.

SYPHILIS, U. S. NAVY, 1900-1940. ADMISSIONS AND ADMISSION RATES PER 1,000

Year	Admissions	Admission Rate per 1,000	Year	Admissions	Admission Rate per 1,000
1900	465	19.57	1922	2,446	20.03
1901	546	20.32	1923	2,170	18.62
1902	606	19.40	1924	2,355	19.74
1903	816	21.90	1925	2,261	19.60
1904	880	21.69	1926	2,505	22.02
1905	981	23.73	1927	2,833	24.57
1906	1,147	26.96	1928	2,633	22.69
1907	881	19.01	1929	2,540	21.64
1908	1,001	18.91	1930	2,940	25.03
1909	1,476	25.81	1931	2,871	25.46
1910	1,315	22.54	1932	3,062	27.66
1911	1,665	27.11	1933	2,639	24.39
1912	1,424	23.00	1934	2,252	20.59
1913	1,447	21.94	1935	1,607	14.07
1914	1,332	19.83	1936	1,377	11.07
1915	1,454	21.35	1937	1,472	11.08
1916	1,542	22.25	1938	1,753	12.59
1917	2,469	10.05	1939	1,996	13.34
1918	5,960	11.83	*1940	941	7.10
1919	4,916	16.45	Total	80,142	
1920	2,470	17.54	Average	1,955	†17.70
1921	2,656	17.84			

*Up to and including September 23, 1940.
†Weighted average for the 41-year period.

Table 2

GONORRHEA, U. S. NAVY, 1900-1940. ADMISSIONS AND ADMISSION RATES PER 1,000

Year	Admissions	Admission Rate per 1,000	Year	Admissions	Admission Rate per 1,000
1900	525	22.10	1922	9,987	81.77
1901	617	22.96	1923	9,142	78.43
1902	771	24.68	1924	10,132	84.94
1903	1,032	27.70	1925	9,114	78.98
1904	1,512	37.28	1926	8,084	71.06
1905	2,085	50.46	1927	8,227	71.34
1906	2,640	62.07	1928	8,353	71.98
1907	2,274	49.07	1929	8,776	74.76
1908	3,015	56.98	1930	8,659	73.72
1909	5,861	102.51	1931	8,761	77.69
1910	6,062	103.90	1932	8,987	81.17
1911	5,658	92.15	1933	7,116	65.78
1912	5,403	87.29	1934	6,133	56.07
1913	5,320	80.69	1935	5,879	51.49
1914	5,703	84.94	1936	5,453	43.83
1915	5,985	87.91	1937	5,826	43.85
1916	5,731	82.70	1938	7,302	52.45
1917	14,099	57.41	1939	8,571	57.29
1918	21,404	42.49	*1940	6,972	52.57
1919	20,410	68.32	Total	290,292	
1920	11,140	79.13	Average	7,080	†64.14
1921	11,621	78.06			

*Up to and including September 23, 1940.
†Weighted average for the 41-year period.

Table 3

Table 4 shows the admissions and admission rates per 1,000 for chancroid for the (nearly) 41-year period. During this time there were 100,081 new cases, or an average of more than 2,400 each year.

CHANCROID, U. S. NAVY, 1900-1940. ADMISSIONS AND ADMISSION RATES PER 1,000

Year	Admissions	Admission Rate per 1,000	Year	Admissions	Admission Rate per 1,000
1900	214	9.01	1922	3,121	25.55
1901	217	8.08	1923	3,064	26.29
1902	284	9.09	1924	3,922	32.88
1903	396	10.63	1925	3,229	27.98
1904	542	13.36	1926	2,927	25.73
1905	538	13.00	1927	4,193	36.36
1906	733	17.23	1928	3,417	29.44
1907	554	11.95	1929	3,652	31.11
1908	665	12.56	1930	4,113	35.02
1909	1,573	27.51	1931	3,785	33.56
1910	1,968	33.73	1932	2,742	24.77
1911	1,929	31.41	1933	1,326	12.26
1912	2,169	35.04	1934	1,485	13.58
1913	1,855	28.13	1935	1,033	9.05
1914	2,908	43.31	1936	1,213	9.75
1915	2,200	32.31	1937	1,039	7.82
1916	3,057	44.12	1938	1,460	10.49
1917	3,220	21.26	1939	1,957	13.02
1918	7,996	15.87	*1940	1,619	12.21
1919	8,019	26.84	Total	100,081	
1920	4,153	29.50	Average	2,441	†22.11
1921	3,594	24.14			

*Up to and including September 23, 1940.
†Weighted average for the 41-year period.

Table 4

Table 5 shows the ratio, syphilis to gonorrheal infections, of the entire Navy, 1914-1940. The reasons for the variation from the civilian experience are not apparent. It has been suggested that it is the result of more complete reporting in the Navy.

Fig. 1 graphically presents the admission rates for syphilis, gonorrhea, and chancroid, and the noneffective ratios per 1,000 for the (nearly) 41-year period. The most marked change in the direction of the curves occurred during the World War years. From 1919 to 1932 there

ADMISSION RATIO, SYPHILIS TO GONOCOCCUS INFECTIONS, ENTIRE NAVY, 1914-40

Year	Syphilis to Gonococcus Infections	Year	Syphilis to Gonococcus Infections
1914	1 to 4.67	1929	1 to 3.46
1915	1 to 4.43	1930	1 to 2.95
1916	1 to 3.94	1931	1 to 3.05
1917	1 to 5.81	1932	1 to 2.94
1918	1 to 3.95	1933	1 to 2.70
1919	1 to 4.15	1934	1 to 2.72
1920	1 to 4.51	1935	1 to 3.66
1921	1 to 4.38	1936	1 to 3.96
1922	1 to 4.08	1937	1 to 3.96
1923	1 to 4.21	1938	1 to 4.17
1924	1 to 4.30	1939	1 to 4.29
1925	1 to 4.03	*1940	1 to 7.41
1926	1 to 3.23		
1927	1 to 2.90	Total	1 to 3.62
1928	1 to 3.17		

*Up to and including September 23, 1940.

Table 5

was no marked change. From 1933 to 1937 there was a slowly declining rate. In 1937 the rate began to climb. This may be due to a change in policy relaxing punitive control. The increase was predicted before the policy was adopted and represents the cases that formerly were concealed and escaped admission. It will be noted that while the admission rate rose, the noneffective ratio fell. This fall is statistically significant and represents the value of early diagnosis and treatment.

Table 6 shows the rates per 1,000 for gonorrhea according to cities which are Naval ports. It will be noted that they are arranged in descending order of a 10-year rate.

Table 7 shows the rates per 1,000 for gonorrhea according to cities outside the United States which are ports of call for U. S. Naval ships.

Time has not been available to study the remaining venereal diseases according to port of infection. It has been shown in *Table 5* that the ratio of syphilis to gonorrhea has had a (nearly) 41-year overall average of 3.63 cases of gonorrhea to 1 of syphilis. A simple mathematical calculation will provide the expected syphilis rate.

The years make pessimists of all of us and these tables for the years in question are grim

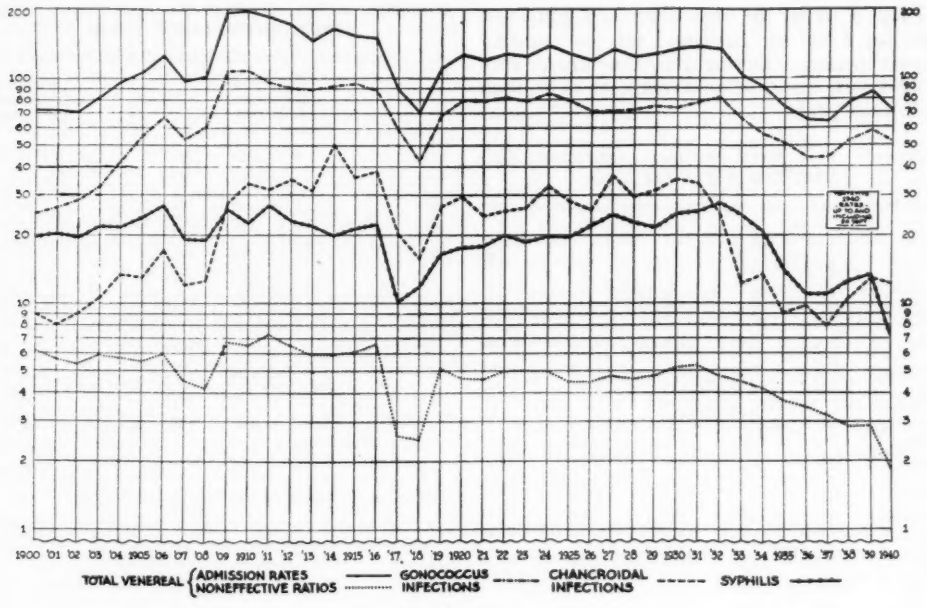

Fig. 1

Venereal diseases, U. S. Navy. Annual admission rates and noneffective ratios per 1,000, 1900-1940.

reminders of the danger spots in our American cities.

It should be remembered that applicants for enlistment in the Navy and Marine Corps, as well as those applying for employment in the civil service of the Navy, are rejected for enlistment and for employment if they are suffering from venereal diseases. A tremendous effort is a continuing function to keep them free of venereal disease.

If it is assumed that the Civil Service personnel living near the ports in which navy yards are located suffer the same degree of infection as that reported for Navy personnel, we have a gloomy index of the venereal health of a number of our American cities.

For as long as we have records, prostitution and war, and preparation for defense, have been linked together like Don Quixote and Sancho Panza. The prostitute has followed the warrior in his campaign and has exploited the armorer wherever he has lingered. Where this combination exists, there are found shattered humanity, raped women, illegitimate children, and women selling themselves for hire. A host of social and economic problems will develop, or, if they already exist, they are exaggerated. The most disgusting of these problems is the exploitation of the prostitute by the racketeer.

Beginning with the Biblical story of the attempt of Phinehas[3] to control the problem of prostitution by the murder of the Israelite Zimri and the Midianitish woman Cozby, down to the present time, we have a sorry record of stupidity. Now is the time to begin a more sensible course.

We have all heard, "Once a prostitute, always a prostitute." This is no longer true. Recent studies by the League of Nations clearly demonstrate that there is sufficient elasticity of the social and economic machinery to permit rehabilitation. It is one of the phenomena of modern civilization that has shown that those who have lived an anti-social life can and do break with the past and rehabilitate themselves and return to a normal, dignified and useful existence.

This is far easier of accomplishment by a planned program of medical care and occupational therapy.

The history of venereal disease control for the past 33 centuries is one of sporadic, well meaning, and often stupid effort. The attempt to limit the spread of these diseases by punitive or restrictive measures has been futile because

the means adopted are well designed to defeat their purpose.

Herodotus[4] describes the efforts of the Medes and Persians to control venereal disease in the following language:

"The citizen who has leprosy or the white sickness may not come into the town or consort with other persons. They say that he is so afflicted because he has sinned in some wise against the sun. Many drive every stranger who takes the disease out of the country."

It is probable that this so-called leprosy was syphilis and the very act of driving the sufferer away spread rather than limited the disease. A more sensible method of attack would have been to treat all such sufferers until they were no longer contagious.

An example of restrictive control during the Middle Ages is Astruce's[5] report of Jane I, Queen of both of the Sicilies and Countess of Province, who regulated the public stews at Avignon in 1347. Amongst her other measures:

"The Queen commands that on every Saturday the women in the house be singly examin'd by the Abbess and a Surgeon appointed by the Directors, and if any of 'em has contracted any illness by their whoring, that they be separated from the rest, and not suffer'd to prostitute themselves, for fear the youth who converse with 'em should catch the Distempers."

How like some of our modern advocates of "restricted districts."

There is little evidence that restrictive measures have made progress in the control of venereal disease. But there is evidence to show that the progress that has occurred is due to the treatment of venereal diseases, improved personal hygiene, and the elevation of public morals.

TEN-YEAR GONORRHEA STUDY, U. S. NAVY
Rates per 1,000 According to Cities Which Are Naval Ports

Cities in U. S. Listed in Descending Order of 10-Year Rate per 1,000	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	10-Year Rate
New Orleans, La.	135.71	194.69	89.04	48.39	50.00	—	—	—	—	—	106.24
San Francisco, Calif.	115.14	68.58	223.53	68.18	53.66	48.04	22.65	9.92	20.80	38.46	60.29
Norfolk, Va.	47.65	51.90	54.73	51.18	47.17	36.80	46.36	38.80	30.25	35.44	43.10
Philadelphia, Pa.	45.11	50.43	62.95	60.29	31.53	12.60	32.38	36.67	21.30	23.48	38.05
Boston, Mass.	51.17	51.51	49.46	56.06	56.20	25.30	19.70	18.94	17.63	17.24	37.78
Bremerton, Wash.	46.14	45.07	54.20	28.75	28.62	47.62	31.89	24.79	15.56	22.50	34.97
Pensacola, Fla.	48.12	40.33	33.48	34.68	42.99	33.33	35.49	25.34	19.90	34.91	33.02
Charleston, S. C.	36.27	46.15	41.18	34.48	48.05	40.70	25.83	14.41	17.01	9.97	32.03
Quantico, Va.	40.70	28.27	44.28	44.32	37.95	33.90	33.59	20.16	24.69	18.20	30.81
San Diego, Calif.	29.90	20.87	28.26	44.46	40.44	29.47	24.35	24.01	28.30	27.50	29.14
New York, N. Y.	32.72	42.05	40.06	37.86	21.94	16.41	22.47	19.01	16.87	18.36	28.68
Seattle, Wash.	—	—	—	13.16	—	23.26	9.35	24.39	33.43	47.01	28.12
Mare Is., Calif., (Vallejo)	20.62	19.67	49.59	50.29	18.32	17.77	20.63	27.55	15.82	21.23	26.00
Washington, D. C.	40.55	51.25	30.30	23.11	26.50	25.93	29.04	13.97	15.04	12.04	25.59
Great Lakes, Ill. (Chicago)	56.22	45.14	38.38	28.04	17.30	28.99	7.24	9.80	7.62	5.49	25.48
New London, Conn.	45.99	34.17	35.03	33.33	21.95	5.63	22.19	21.28	22.70	10.50	25.38
Parris Is., S. C.	27.01	46.52	43.30	14.40	18.66	9.73	14.40	5.55	7.05	10.45	24.53
Portsmouth, N. H.	23.75	25.75	21.33	28.95	15.87	24.76	15.66	14.73	22.73	7.92	20.84
Newport, R. I.	23.01	24.36	32.49	25.62	25.12	14.84	15.74	14.89	5.69	8.56	18.32
Annapolis, Md.	10.08	4.88	7.24	9.75	7.62	10.25	13.03	12.64	21.00	17.65	11.61
Total	36.51	35.11	40.58	39.05	31.42	26.99	27.17	22.65	21.71	23.17	30.11

Table 6

The punitive laws governing the military forces have defeated their own purpose for the following reason: The soldier or sailor unable to perform his duties because of venereal disease loses pay and other perquisites, and this assures that some men will conceal their diseases. The tendency of many people is to treat venereal disease as a disgrace rather than a communicable disease; to disregard the carrier state when dealing with the venereal diseases. The unfortunate soldier or sailor who is infected is treated not as a patient but a defendant in court.

We have presented a thoroughly gloomy picture. Now the questions naturally arise:

(1) What are some of the underlying causes for the present situation?

(2) Are we in a better or a worse position than in 1918 to cope with the problems?

(3) What are the remedies?

One of the fundamental causes of the prevalence of venereal diseases today is that at the end of the World War demobilization of troops was a necessity and in the light of present knowledge people suffering from the venereal diseases were discharged before they had been rendered noninfectious. This resulted in the spread of venereal diseases to localities where before the War the diseases were seldom seen. Such a condition must not be allowed to recur. Machinery must be established to insure that infected individuals are rendered noninfectious.

Along with the demobilization of the troops, there was a concurrent demobilization of personnel trained in the handling of the complex problem of venereal disease control. Fortunately, for the success of the present emergency there are still alive many of the workers who had experience in this field during the World War. They can be depended upon to guide civilian programs.

In the field of moral prophylaxis there is need for an objective re-examination of conditions as they are. For years the writer has used lecture material prepared by his friends in the clergy, both civil and military. If this has saved a single case of venereal disease, it is not apparent from his records. The soldier and sailor expects his medical officer to be a "cracking good" doctor and not a "Holy Joe." Since moral prophy-

TEN-YEAR GONORRHEA STUDY, U. S. NAVY

Rates per 1,000 According to Cities Which Are Naval Ports

Cities Outside Continental U. S. Listed in Descending Order of 10-Year Rate per 1,000	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	10-Year Rate
Sitka, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	230.77	126.76
Shanghai, China	151.54	155.19	124.04	190.38	111.60	65.05	76.92	84.48	88.22	118.68	116.30
Peiping and Tientsin, China	163.21	174.51	226.74	186.35	96.65	48.74	76.77	55.77	76.07	55.56	114.43
Manila area	31.75	66.67	86.68	10.24	58.77	37.76	32.26	57.46	84.30	91.84	64.25
Guantanamo Bay, Cuba	25.48	35.91	69.77	65.27	61.76	78.65	55.90	57.51	16.29	74.07	53.77
Coco Solo, C. Z. (Colon area)	67.25	37.48	37.98	42.55	21.11	24.42	29.65	22.56	36.36	60.87	38.12
Tutuila, Samoa	19.80	80.00	40.00	22.60	89.89	.....	92.78	34.09	18.18	11.43	36.13
San Juan, P. R.	.....	18.52	54.55	.....	36.36	.....	.....	.....	.....	.....	27.52
St. Thomas, V. I.	61.45	38.46	15.79	.....	.....	66.67	.....	.....	.....	.....	24.94
Pearl Harbor, T. H. (Honolulu area)	21.30	32.06	36.64	25.73	26.15	16.38	20.15	23.41	18.06	14.20	22.80
Balboa, C. Z. (Panama City area)	.....	.....	.....	.....	.....	.....	.....	.....	.....	12.05	6.02
Total	64.52	71.80	74.74	84.70	54.17	35.77	38.25	40.39	44.53	57.91	56.29

Table 7

laxis belongs to the church, it is at the door of that institution that it will be left with the admonition that a realistic approach to the problem is the only hope of success.

Chemical sterilization, unfortunately called prophylaxis, is a subject studiously avoided in normal times by both health officials and societies whose avowed purpose is the reduction of venereal disease. This can be understood because the health officer has been discouraged by its almost complete failure in civil practice. There is little wonder that it failed. The administrative means of its establishment, in the few localities where it was tried, were so defective that its failure was assured.

From the Island of Cyprus comes the encouraging information that at least one civilian community has found this a valuable method for venereal disease prevention and control. The total attendance at the Cyprian stations in 1938 was 79,271.[6]

Prophylactic measures are still a part of the effort of the Army and Navy to control the venereal diseases. These measures will undoubtedly be continued for the military forces and such service should be made available, at least for concentrations of the industrial population. It would be unwise to establish such facilities without providing for instruction in the proper management of the methods and explicit information on their limitations. It is my belief that, if properly handled, venereal disease prophylaxis, chemical and mechanical, offers more promise than the entire field of venereology at the turn of the century.

There are unhappily present in certain localities responsible people, and we may expect them to increase, who are inclined to revise their opinions of normal times and condone or even recommend the entirely antiquated and morally indefensible system of regulated houses of prostitution. They will base their arguments on the following undisputed and indisputable postulates:

(a) The urgent necessity for reducing the incidence of venereal disease.

(b) The protection of society from sex crimes.

(c) That suppression of brothels will scatter prostitutes into the respectable residential districts of our cities.

Claims will be made that the scattering of the prostitutes will defeat the epidemiologic approach to the problem.

The writer has been unable to find any evidence that there has been an increase in sex crimes in any of the countries which have abolished licensed prostitution. Perhaps this is due to a better police protection in such localities. The epidemiologic approach has not been employed with adequate energy over a sufficient length of time for this to be used as a cogent argument.

There are those who will contend that regular examinations of prostitutes will reduce the incidence of venereal diseases. Anyone who has attempted these procedures can testify to the difficulty of determining infectivity. Even if carried out much more frequently than is now the case, the number of exposures of the prostitutes would be, at least in the case of gonorrhea, entirely inadequate to detect the disease.

For many years I have had an abiding conviction, both on technical and moral grounds, that prostitution should be abolished. The main reason for this attitude is that the racketeer has reaped his filthy living from the control of brothels. The easy access to recognized prostitution may entice men who in normal circumstances would never frequent houses of prostitution. The soldier of today is the citizen of tomorrow, and he must be protected in order that society may be protected. Despite this abiding conviction that the abolition of prostitution is a social necessity, I would not hesitate to change my views if it can be proven that a single sailor will be saved from infection to carry on the duties for which he has been trained. It is submitted that the burden of proof is on those who advocate controlled brothels.

For the advocates of organized prostitution and the zealots for abolition who resort to lurid publicity and neglect a program of medical treatment and occupational therapy designed to rehabilitate the prostitute and assist her to return to a dignified and useful social existence, and in view of the boundless effort and money we must expend to have effective preparation for defense and efficient soldiers and sailors, I ask in the forceful language of that rigid disciplinarian, Oliver Cromwell, Lord Protector of England:

"I beseech ye brethren, in the bowels of God, to consider ye may be wrong."

If their extreme views are wrong, and should be adopted, they would result in the most costly blunder in social sciences and public health since these sciences have been recognized. Evidence is available that prostitution is rampant near several of our Naval stations and that law enforcement and public health programs in these

localities are far from what they should be if serious damage from the venereal diseases is to be avoided. There is need for an awakened public consciousness to these facts.

Hitherto we have dealt with American experience. Perhaps you would like to have some information on what has been reported from abroad during this war.

Much conflicting information has been received, but little has been received from Continental Europe on which to base a considered statement. From England comes a different story:[7]

"So far the most disturbing influence of the war upon public health has been the rise in the prevalence of syphilis. It is not possible yet to make a reasonable guess of the extent to which syphilis has increased in incidence within the past year. * * * It is increasing briskly in most districts. * * * What is happening is not quite what was expected and must cause us some uneasiness. * * * It seems that at the present time primary syphilis is found mainly in very young men, and that in the main they are infected by very young girls whom in general we believed were uninfected. This is both puzzling and disturbing. * * * Though it sounds paradoxical, venereal disease is *spread much more by females than by males,* or the former are the main reservoirs of the parasites; so the essence of the control of venereal disease is to prevent females from spreading them. In this we largely fail because we cannot get females to come for treatment. This failure is universal, but it is greatest in those districts where the disease is least rife. At the present time we are seeing perhaps ten primary chancres in males to one in females. * * * In former wars venereal disease was spread mainly by professional prostitutes, who in the past were considered as a normal part of army baggage, but in the present war the spreaders are mainly rural maidens—or who pass as such—who are presumed not to be infected."

Sir Drummond Shiels[8] points out that it is undoubtedly true that young girls shrink from attending ordinary venereal disease clinics and a better method would be clinics described as "Women's Ailments," where both gynecologic and venereal disease cases could be seen.

It might be well for us seriously to consider this recommendation and equally important to make suitable arrangements for clinic hours so that women can attend without loss of working time and with a lessening of suspicion.

Leaders in public health programs and persons interested in civic and social affairs must realize that when a nation is preparing for total defense, or is forced into a war, it is no longer a master of its policy but the slave of unforeseeable and uncontrollable events. Antiquated law enforcement agencies, arrogant law enforcement officials, weak or incompetent public health officials, corrupt politicians, racketeers and malignant fortune, ugly situations, and awful miscalculations, all must go.

The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

BIBLIOGRAPHY

1. New York Times Editorial. Quoted from the Readers' Digest, p. 118 (Oct.) 1940.
2. Young, Hugh: A Surgeon's Autobiography, pp. 276-277. New York: Harcourt, Brace & Co., 1940.
3. Numbers 25:1-16.
4. Herodotus, Book 1, Article 138.
5. Astruce (English translation), **1**:53-54.
6. Health and Empire, **15**:44, No. 1 (July) 1940.
7. The Medical Officer. A Journal for Medical Men in the Government and Municipal Services, No. 1658 (Vol. lxiii, No. 18), May 4, 1940.
8. The Medical Officer. A Journal for Medical Men in the Government and Municipal Services, No. 1658 (Vol. lxiii, No. 18), pp. 159-160 (May 4) 1940.

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M. Y. DABNEY, M.D., Editor
C. P. LORANZ, Secretary, Treasurer and General Manager

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EDITORIAL DEPARTMENT

SOUTHERN MEDICAL ASSOCIATION
Thirty-Fifth Annual Meeting
St. Louis, Missouri, November 11-14, 1941

PAUL HENRY RINGER

PRESIDENT OF THE SOUTHERN MEDICAL ASSOCIATION

A man of many gifts is the new President, Dr. Paul H. Ringer, a linguist and a musician, as well as one of the most scholarly members of the medical profession.

He was born in New York City, November 6, 1881, the only child of Severin and Elisa Minot Ringer. His father, a Pole by birth, was Professor of Modern Languages at Lehigh University. His mother was a Belgian, and an accomplished musician. Dr. Ringer attended private schools in New York, received his A.B. from Columbia University in 1901, and his M.D. in 1904. He served internships in Bethlehem, Pennsylvania, and New York City, and came to Asheville, North Carolina, to begin practice in 1906. He was associated with the late Dr. Charles L. Minor, and specialized early in diseases of the chest. His years of practice have covered the period of prominence of Asheville in the field of tuberculosis; and he himself has achieved prominence for his work particularly in this disease.

In 1915, Dr. Ringer married Miss Eleanor Varick Morrison, of Asheville. They have two children, Paul, Jr., a graduate of Princeton and now a student at the Vanderbilt University Medical School, and Eleanor, who is at Sweet Briar College.

In the World War Dr. Ringer served as Captain in the Medical Corps of the United States, attached to the Italian Army at Base Hospital 102 in Vicenza, Italy. He has had many medical and civil honors, including the presidency of his state medical association and of leading organizations for the study and prevention of tuberculosis.

He speaks French and German fluently, has a singing voice of fine quality, and is a gifted speaker. A fluent writer, he is also an omnivorous reader with a catholic taste in literature. He has made many contributions to medical periodicals.* He is broadly civic minded and in Asheville has headed the Community Chest among other charitable organizations, and the Civic Music Association, and he is active in the Presbyterian Church, in which he is an elder. His memberships include the Columbia University Club of New York, Biltmore Forest Country Club, Pen and Plate Club, and the Civitan Club.

He has been president of the Southern Tuberculosis Conference, has held office in several of the special societies, and is a diplomate of the American Board of Internal Medicine.

In 1913, he joined the Southern Medical Association and since then has attended twenty of its meetings. In 1928, he was General Chairman of the Asheville meeting of the Southern Medical Association and for six years represented North Carolina on the Council of the Association.

To a rare degree he combines the qualities of scholarship, ability as an internist and diagnostician, leadership and forceful speaking. Few men have reached the presidency of the Southern Medical Association so well equipped for the office and with such widespread approval of his associates as has Dr. Ringer.

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*Publications of Dr. Ringer in SOUTHERN MEDICAL JOURNAL:

A Consideration of the Present Outlook on Tuberculin Therapy. **11**:83-87 (Feb.) 1918.

The Value of the X-Ray from the Viewpoint of the Pulmonary Clinician. **18**:165-169 (March) 1925.

Indications for Surgery in Pulmonary Tuberculosis. **22**:254-256 (March) 1929.

Factors Concerned in the Prognosis of Pulmonary Tuberculosis. **25**:243-247 (March) 1932.

Diagnostic Points in Pulmonary Tuberculosis. **28**:178-179 (Feb.) 1935.

The Present Status of the Tuberculosis Situation in the Southern States. **33**:68-73 (Jan.) 1940.

Other publications by Dr. Ringer since 1930:

Diagnosis and Rest, the Foremost Factors in Overcoming Pulmonary Tuberculosis. Trans. State Med. Assn. of Ala., 1930, p. 244-252.

Pulmonary Tuberculosis: Home Treatment Versus Institutional Treatment. J.A.M.A., **97**:381-384 (Aug. 8) 1931.

Consultation Practice: The Gentle Art of Making Enemies. Sou. Med. & Surg., **94**:202-204 (April) 1932.

Is There a Tendency to Make of Pulmonary Tuberculosis a Surgical Disease? Sou. Med. & Surg., **96**:462-463 (Sept.) 1934.

The Blood Sedimentation Test: Its Uses as a Routine, Especially in Pulmonary Tuberculosis. Ann. Int. Med., **8**:258-267 (Sept.) 1934.

Surgery in Pulmonary Tuberculosis. Southern Surgeon, **3**:251-261 (Dec.) 1934.

What Constitutes an Interesting Case? Sou. Med. & Surg., **98**:245-249 (May) 1936.

Management of Early and Advanced Cases of Tuberculosis. Internat. Clinics, Vol. 4, Series 46.

Differential Diagnosis in Pulmonary Diseases. N. Y. State Jour. Med., **37**:1005-1010 (June 1) 1937.

The Prevention and Control of Tuberculosis. Diseases of the Chest, **4**:12-14 (March) 1938.

The Evolution of the Treatment of Tuberculosis. Diseases of the Chest, **4**:8-13 (Oct.) 1939.

A Non-Statistical Evaluation of Artificial Pneumothorax. Jour. Lab. & Clin. Med., **24**:893-898 (June) 1939.

Prevention of Tuberculosis. Diseases of the Chest, **5**:14-16 (Feb.) 1939.

Medical Jurisprudence. New Orleans Med. & Surg. Jour., **91**: 594-600 (May) 1939.

Management of Pulmonary Tuberculosis in Relation to Hemorrhage. Diseases of the Chest, **6**:136-138 (May) 1940.

OBESITY AND ADRENALS

The Twentieth Century theory of obesity has been that the putting on of flesh was purely a matter of the number of calories ingested per day; and that reduction of these invariably produced weight loss. It was noted that even frankly endocrine cases could be reduced if their calories were restricted. Studies of the vitamins and of some of the internal secretions must complicate this viewpoint and revive the struggle to find a reducing diet which is generous and satisfying.

Thorn and Emerson,[1] of Johns Hopkins University, have investigated the effects of ovarian, testicular and adrenal hormones upon sodium chloride and water retention in the body and upon the appearance of edema. Excess of the three steroid hormones of the body, progesterone, testosterone and corticosterone, apparently, according to these authors, is capable of bringing about weight gain, with sodium chloride and water retention. Rather sudden weight gain may at times occur physiologically under the influence of excess secretion of one of these glands, or after treatment of normal or subendocrine animals or humans with their products. Desoxycorticosterone in particular has a water and sodium chloride retaining effect upon normal persons and upon patients with Addison's disease. Potassium to some extent counteracts its activity.

It has been observed that the taking of 1 per cent salt solution instead of water by adrenalectomized rats will maintain these animals in a state of good health and will also permit them to store carbohydrate much better than the adrenalectomized controls which do not receive salt in the water.[2] With the proper amount of excess salt, they are able to maintain their weight.

One would think, then, that perhaps salt metabolism and the tendency to salt retention would have much to do with the normal putting on of weight, and if this is so, that potassium salts might have a tendency to prevent obesity.

Certainly the mineral salts, which have no caloric value in the body, must be concerned in weight maintenance, and the quantity of circulating adrenal hormone, which may show considerable normal individual variation, must affect the hydration of tissues and the utilization and storage of foodstuffs.

1. Thorn, George W.; and Emerson, Kendall, Jr.: The Role of Gonadal and Adrenal Cortical Hormones in the Production of Edema. Ann. Int. Med., **14**:757 (Nov.) 1940.

PANTOTHENIC ACID AND THE SKIN

The food requirement of various species of protoplasm varies considerably, man alone perhaps requiring all the vitamins so far studied. Certain bacteria require only one vitamin and will grow upon simplified media only if nicotinic acid (the antipellagric vitamin) is added. They apparently do not need other food supplements. Such a complicated animal as the sheep, on the contrary, can synthesize nicotinic acid, and will grow normally when this is not a constituent of his ration.[3] The rat, which requires the B vitamins, does not require vitamin C, the antiscorbutic; but the guinea pig is extremely sensitive to C deficiency.

Pantothenic acid is one of the B group abun-

2. Anderson, E.; Herring, V.; and Joseph, M.: Salt After Adrenalectomy. III. Carbohydrate Stores in Adrenalectomized Rats Given Various Levels of Sodium Chloride. Proc. Soc. Exper. Biol. & Med., **45**:488 (Oct.) 1940.

3. Pearson, P. B.; Winegar, A. H.; and Schmidt, H.: Studies on the Metabolism of Nicotinic Acid in the Sheep. Jour. Nutrition, **20**:551 (Dec.) 1940.

dant in yeast, liver and rice polishings. Its deficiency variously affects different species of laboratory animals. It is identified with a substance studied for several years as the chick antidermatitis factor, and is a nutritive requirement of chicks. It is a requirement for the normal growth of rats also. Young rats kept on pantothenic acid-deficient rations, according to Unna,[1] of the Merck Institute for Therapeutic Research, develop rough coats, a nasal discharge, and bloody whiskers. At autopsy, a hemorrhagic condition of the adrenals and intestines is noted.

The B group of water-soluble vitamins in general seems to be important in the maintenance of normal integument and hair growth. The pellagrin, deficient in nicotinic acid, shows a red tongue and usually lesions on parts of the skin which are exposed to light. The riboflavin (B_2) deficient human has a rough skin with sores about the mouth corners and sharkskin nose. From studies on chickens and guinea pigs, pantothenic acid is important in maintenance of a normal skin and in hair growth.

Pantothenic acid has also been shown to affect the metabolism of human beings. It is low in the blood of persons with the known B-deficiency diseases, according to Spies[2] and his associates. Injection of its salts into patients with riboflavin deficiency causes a rise in the riboflavin content of the blood. This would suggest that it may be concerned in the utilization of riboflavin, which, as has been noted, has marked effects upon the human skin.

A CORRECTION

In the paper, "Treatment of Functional Disorders of the Female by Radiation of the Pituitary Gland," by J. Kotz and Elizabeth Parker in the JOURNAL in August, 1940, an error occurred. Page 832, column 2, lines 12 and 13, read: "0.5 mm. aluminum filter." It should read: "0.5 mm. copper plus 1 mm. aluminum."

TWENTY-FIVE YEARS AGO

FROM JOURNALS OF 1916

Costs of Health and Defense.[3]—The Oration on Public Health at the Dallas meeting of the Southern Medical Association by Dr. A. T. McCormack, Secretary of the State Board of Health of Kentucky, was one of the notable addresses of the occasion. * * *

He began by referring to the present public interest in preparing the country to resist possible invasion or attack by foreign foes, and took occasion to pronounce a very eloquent eulogy upon the character and policy of President Wilson. He mentioned the fact that out of every single dollar now collected by the national government as revenue sixty-eight cents go to the support and equipment of the army and navy and for the payment of pensions, and that it was now proposed to annually add hundreds of millions of dollars to such expenditures.

His article does not oppose those measures, but uses them as a contrast to the meager sums appropriated to the saving of human life instead of to inventing machines for its wholesale destruction.

Preparedness.[1]—The word "preparedness" conveys so completely the prevailing impulse of the American people that it has become a sort of fetich. No politician of any party dares deride it, though some would minimize what it stands for. * * * Recent and ancient history show that only by being able to defend itself is any nation, however large, safe from imposition or subjection. Therefore, it is safest to be prepared for national defense against possible attack.

Pellagra.[2]—Whenever two or three, or even as many as twelve hundred physicians, are gathered together anywhere in the South, pellagra is the most important subject under discussion.

Law Against Fee-Splitting.[3]—The Legislature of Alabama, at its recent session, enacted several laws affecting the practice of medicine in that State, all of them having the approval of the medical profession. One Act * * * deals with the evil termed "fee-splitting." * * * It is not believed that the practice has been as common in the South as in some other parts of the country, but there has been enough of it to arouse the indignation of those who believe in honorable dealings * * * an evil which if allowed to grow might ultimately rob the profession of medicine of the reputation for uprightness and beneficence it has so deservedly and proudly borne * * * a physician or surgeon * * * who has any agreement or understanding * * * to receive any compensation favor or thing of value whatsoever * * * without the knowledge and consent of the patient shall be guilty of selling a patient within the meaning of this act.

1. Unna, Klaus: Pantothenic Acid Requirement of the Rat. Proc. Soc. Exper. Biol. & Med., **45**:565 (Oct.) 1940.

2. Editorial: Pantothenic Acid in B Deficiency. Sou. Med. Jour., **33**:906 (Aug.) 1940.

3. Editorial: A National Health Program. Sou. Med. Jour. **9**:65 (Jan.) 1916.

1. Editorials: Preparedness. Sou. Med. Jour., **9**:65-66 (Jan.) 1916.

2. Editorial: Pellagra. Ibid., p. 68.

3. Editorial: Alabama's Law to Prevent the Buying and Selling of Patients—Fee-Splitting Defined. Ibid., p. 69.

Correspondence

SURGEON'S CHAPPED HANDS

Editor, SOUTHERN MEDICAL JOURNAL:

I have a great deal of trouble with chapping of my hands and forearms during fall and winter months, and I believe that antiseptics such as lysol increase this

tendency. Is this true? Has a 1-2000 solution of mercuric cyanide the same effect on the skin? Can you suggest a good reliable antiseptic which may be used in water without increasing the tendency to chapping?

C. C. HORTON, M.D.

Pendleton, South Carolina, November 20, 1940.

ANSWER.—Excessive dehydration and de-oleation of the skin should be prevented by massaging the hands and forearms with a saponifiable oil such as olive oil before washing. A mild soap is then used sparingly. Frequently, and especially at bedtime, a bland unguent such as toilet lanolin should be smoothed into the skin. For an antiseptic, a solution of hexylresorcinol in glycerin (1-1000) is non-irritating.

Book Reviews

Physical Diagnosis. By Ralph H. Major, M.D., Professor of Medicine in the University of Kansas. Second Edition. 464 pages, illustrated. Philadelphia: W. B. Saunders Company, 1940. Cloth $5.00.

This text needs no introduction to the student of physical diagnosis. While only three years have elapsed since the first edition, considerable revision has been necessary. Dr. Major has maintained the viewpoint of previous texts, namely, that physical diagnosis should be in the main dependent upon the use of the senses rather than upon the use of machines. He illustrates this by numerous references and quotations from the original descriptions of many pathologic conditions. However, when necessary, he has not hesitated to use other procedures.

A Manual of Medical and Surgical Emergencies. Edited by J. C. Geiger, M.D., Director, Department of Public Health, City and County of San Francisco, California. 199 pages. J. W. Stacey, Inc., San Francisco, 1940.

The first section of this book gives a general discussion of emergency hospital procedures, based upon those practiced in San Francisco. The second section is devoted to the more common surgical emergencies and the third section discusses medical emergencies. The last two sections are written by specialists in that field. The book has only a limited appeal and the average practitioner will not derive a great deal of benefit from its pages.

Man's Greatest Victory Over Tuberculosis. By J. Arthur Myers, Ph.D., M.D., F.A.C.P., Professor of Medicine and Preventive Medicine and Public Health, University of Minnesota, and Chief of Medical Staff, Lymanhurst Health Center, Minneapolis. 401 pages, illustrated. Springfield, Illinois: Charles C. Thomas, Publisher, 1940. Cloth $5.00.

This book is practically a history of veterinary medicine and the United States Bureau of Animal Industry. It describes in detail the almost complete eradication of bovine tuberculosis in the United States.

It is hampered by too many quotations and needless repetition. On finishing it, the medical reader wishes sincerely for a better understanding between the doctors of human medicine and the doctors of veterinary medicine.

This book is well prepared and printed and easy to read. It will be of keen interest to veterinarians and physicians interested in tuberculosis. It will also do much to foster in the latter a deep respect for the work of the veterinarian.

Office Urology, With a Section on Cystoscopy. By P. S. Pelouze, M.D., Assistant Professor of Urology, University of Pennsylvania. 766 pages, illustrated. Philadelphia: W. B. Saunders Company, 1940. Cloth $10.00.

This book presents many small details of management that add to the patient's comfort, increase the physician's diagnostic ability, and yield better end results in treatment. Many of these points are overlooked in the average book on urology where a great deal of space is devoted to surgery. They may be well known to the seasoned urologist, but the intern, general practitioner and young urologist will find them of great value.

Every phase of office urology is covered, beginning with the description of equipment, method of taking a history and extending through the symptoms, diagnosis and treatment of the disease. The style is that which is clear and easy and the plan of treatment Dr. Pelouze has followed for years in his daily practice. The reader may not always agree with his point of view, but will be compelled to acknowledge that it is the sincere expression of a well-qualified urologist who has devoted years of study to office urology. He frequently forces home the point that by proper office treatment surgery may be avoided. This is a point well taken, as there is probably a tendency today on the part of many to operate without having devoted sufficient time to the non-operative methods of treatment. The section on cystoscopy is exceedingly clear, well written, and worthy of the attention of any cystoscopist. It should appeal especially to the beginner in cystoscopy and urology.

Dr. Pelouze's book ably and comprehensively covers the practical diagnosis and treatment of ambulant urologic patients.

Fetal and Neonatal Death. By Edith L. Potter, M.D., and Fred L. Adair, M.D., University of Chicago and Chicago Lying-In Hospital. 207 pages, University of Chicago Press. Price $1.50.

Drs. Potter and Adair report a series of very carefully performed autopsies on 245 liveborn and 281 stillborn infants. Correlation of obstetrical data, clinical course and type of delivery with the percentage of mortality and cause of death is worked out in detail and is most informing. The importance of performing autopsies on premature infants is stressed in that by this means one is able to reduce the unexplained mortality still further.

One whole chapter is devoted to normal anatomy and histology in the fetus and the newborn with tables of weights and measures. The chapter on the causes of neonatal death is excellent and a mine of information. The final chapter on special pathology is good but is of necessity too concise to offer as much help as the more general discussions. Details of postmortem technic are fully given. The style is facile, the illustrations and photographs are excellent and surprisingly abundant, and an adequate bibliography follows each chapter.

Text-Book of Ophthalmology. By Sir W. Stewart Duke-Elder, M.A., D.Sc. (St. And.), Ph.D. (Lond.), M.D., CH.B., F.R.C.S., Surgeon Oculist to H. M. The King; Colonel A.M.S., Consulting Ophthalmic Surgeon to the British Army. Volume III, Diseases of the Inner Eye. 1373 pages, illustrated. St. Louis: The C. V. Mosby Company, 1941. Cloth $18.50.

There has long been a need for a complete book on the diseases of the inner eye written in the English language. Duke-Elder has accomplished just that in his third volume of "A Text-Book of Ophthalmology." This book is both a reference and a textbook. Its 1140 illustrations, including 164 in color, are unsurpassed for their detail. Acknowledgment of all references used is made with a complete bibliography at the end of each chapter.

Diseases of the inner eye are grouped under the headings: uveal tract, retina, optic nerve, lens, vitreous, glaucoma and hypotony, and intra-ocular parasites. Each chapter is opened with a general consideration in which the microscopic and gross anatomy, physiology, embryology, and pathology of that part of the inner eye are discussed in sufficient detail to give the reader a clear conception of the processes that enter into the diseases in that area. The chapters on uveal tract, retina, and optic nerve group the diseases further into those due to circulatory disturbance, inflammation, degeneration and atrophy, cysts, tumors, displacements, and those associated with general disease. The chapters on the lens and anomalies of intra-ocular pressure are very complete in their consideration of cataract and glaucoma respectively, etiology, types, association with other diseases, symptoms, physical findings, and the different forms of treatment with the advantages and disadvantages of each. The chapter on intra-ocular parasites is also very interesting even though lesions described here are not commonplace. Complete details of etiology, symptoms, physical findings and treatment are given for each disease.

Southern Medical News

POSTGRADUATE COURSE IN OBSTETRICS AND GYNECOLOGY

The Department of Obstetrics and Gynecology of the University of Chicago and the Chicago Lying-In Hospital, through the cooperation of the Children's Bureau, United States Department of Labor, and the Illinois State Department of Public Health, offers five postgraduate courses of four weeks each between January 6 and June 21, the beginning dates being January 6, February 10, March 17, April 21, and May 26. Communications should be addressed to Postgraduate Course, 5848 Drexel Avenue, Chicago.

FORUM ON ALLERGY

The Annual Forum on Allergy, founded three years ago by a group of allergists in the Middle West, will hold its third annual meeting at the Claypool Hotel in Indianapolis, Indiana, January 11-12. All physicians in good standing in their local medical society are most welcome. Registration fee is $5.00.

ALABAMA

Dr. James S. McLester, Birmingham, has been elected Chairman of the Committee on Nutritional Research of the National Foundation for Infantile Paralysis.

Dr. Nicholas H. Dejanny, formerly of Detroit, Michigan, has been appointed a member of the tuberculosis staff of the State Department of Health.

Dr. Bertha E. Stokes, a native of Birmingham and a graduate of Tulane University, has been appointed Health Officer for Bullock County, with headquarters at Uniontown. This appointment is Alabama's first woman county health officer. Dr. Stokes succeeds Dr. D. F. Parker, who resigned to enter the Indian Service of the United States Department of the Interior.

Dr. James S. Snow announces the opening of offices in the Woodward Building, Birmingham, practice limited to dermatology.

DEATHS

Dr. J. W. Boggess, Huntsville, aged 69, died December 1.

Dr. Joseph Buford Boyer, Wilsonville, aged 81, died December 15.

Dr. George S. Gilder, Carbon Hill, aged 43, died recently of injuries received in an accident.

Dr. W. A. Lavender, Birmingham, aged 67, died December 2 of a heart attack.

Dr. A. S. Steagall, Abbeville, aged 74, died November 28.

Dr. Gustave A. Ozenne, Winfield, aged 57, died October 24 of retroperitoneal hemorrhage and intestinal obstruction.

Dr. John Nathan Thresh, Grand Bay, aged 66, died October 14.

ARKANSAS

Third Councilor District Medical Society has elected Dr. A. W. Cox, Helena, President; Dr. J. O. Rush, Forrest City, Vice-President; and Dr. Milton C. John, Jr., Stuttgart, Secretary-Treasurer.

Prairie County Medical Society has elected Dr. W. J. B. Williams, Des Arc, President; Dr. Edward Adams, Hazen, Vice-President; Dr. J. R. Lynn, Hazen, President-Elect; and Dr. J. C. Gilliam, Des Arc, Secretary-Treasurer.

Dr. Edward F. Ellis, Fayetteville, has donated his medical library, a collection of more than one thousand volumes, to the University of Arkansas School of Medicine.

Dr. H. B. Hardy, Greenbriar, has been elected President of the Arkansas School Board Association, and Dr. J. G. Gladden, Harrison, a member of the Executive Committee.

Dr. Ralph E. Crigler has been elected President of the Fort Smith Kiwanis Club.

Dr. Ruth Ellis Lesh, Fayetteville, has been elected a Fellow of the American College of Surgeons.

Dr. R. B. Robbins, Camden, has been elected President of the Tri-State Medical Society of Texas, Louisiana and Arkansas, and Dr. Joe M. Rushton, Magnolia, Vice-President from Arkansas.

Dr. Hoyt R. Allen and Mrs. Martha Branham, both of Little Rock, were married October 19.

Dr. Jeff J. Baggett, Prairie Grove, and Miss Frances Gose were married October 26.

Dr. Marvin T. Crow, Pine Bluff, and Miss Kathryn Sue Martin, Warren, were married November 27.

DEATHS

Dr. Adolphus G. Clyne, Paragould, aged 85, died October 21.

Dr. James F. Gullet, Hot Springs National Park, aged 76, died October 1 of bronchopneumonia.

DISTRICT OF COLUMBIA

Second Annual Postgraduate Course in Aviation Medicine, including aviation ophthalmology for graduates in medicine, will be given at the George Washington University School of Medicine, Washington, February 3-7, inclusive. Military and Naval authorities have advised the School that credit will be given to those officers in the Medical Reserve Corps of the United States Army and United States Navy who attend this five-day course.

Dr. Edward J. Cummings, Associate Professor of Clinical Ophthalmology, Georgetown University School of Medicine, Washington,

Continued on page 38

OFFICERS 1940-1941

The following is a complete roster of the officers of the Southern Medical Association for 1940-1941, and of associations meeting conjointly with the Southern Medical Association:

President—Dr. Paul H. Ringer, Asheville, North Carolina.

President-Elect—Dr. M. Pinson Neal, Columbia, Missouri.

First Vice-President—Dr. E. Lee Heflin, Louisville, Kentucky.

Second Vice-President—Dr. James R. Bloss, Huntington, West Virginia.

Secretary-Manager (Secretary, Treasurer and General Manager)—Mr. C. P. Loranz, Birmingham, Alabama.

Editor of Journal—Dr. M. Y. Dabney, Birmingham, Alabama.

Associate Editor of Journal—Mrs. Eugenia B. Dabney, Birmingham, Alabama.

Councilors—Dr. Hamilton W. McKay, Chairman, Charlotte, North Carolina; Dr. E. W. Rucker, Jr., Birmingham, Alabama; Dr. S. J. Wolfermann, Fort Smith, Arkansas; Dr. Oscar B. Hunter, Washington, D. C.; Dr. Walter C. Jones, Miami, Florida; Dr. Marion C. Pruitt, Atlanta, Georgia; Dr. E. L. Henderson, Louisville, Kentucky; Dr. Lucien A. LeDoux, New Orleans, Louisiana; Dr. J. Mason Hundley, Jr., Baltimore, Maryland; Dr. William H. Anderson, Booneville, Mississippi; Dr. Alphonse McMahon, St. Louis, Missouri; Dr. Robert M. Anderson, Shawnee, Oklahoma; Dr. J. Warren White, Greenville, South Carolina; Dr. Horton Casparis, Nashville, Tennessee; Dr. Curtice Rosser, Dallas, Texas; Dr. Thomas W. Murrell, Richmond, Virginia; Dr. R. J. Wilkinson, Huntington, West Virginia. Executive Committee: Dr. McMahon, Chairman, Dr. Henderson and Dr. LeDoux.

Board of Trustees (All are Past-Presidents)—Dr. H. Marshall Taylor, Chairman, Jacksonville, Florida; Dr. Fred M. Hodges, Richmond, Virginia; Dr. Frank K. Boland, Atlanta, Georgia; Dr. J. W. Jervey, Greenville, South Carolina; Dr. Walter E. Vest, Huntington, West Virginia; Dr. Arthur T. McCormack, Louisville, Kentucky.

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Section on Pediatrics—Dr. Warren W. Quillian, Chairman, Coral Gables, Florida; Dr. Jean V. Cooke, Vice-Chairman, St. Louis, Missouri; Dr. William Weston, Jr., Secretary, Columbia, South Carolina.

Section on Gastroenterology—Dr. James L. Borland, Chairman, Jacksonville, Florida; Dr. Donovan C. Browne, Vice-Chairman, New Orleans, Louisiana; Dr. Julian M. Ruffin, Secretary, Durham, North Carolina.

Section on Pathology—Dr. A. J. Miller, Chairman, Louisville, Kentucky; Dr. W. R. Mathews, Vice-Chairman, Shreveport, Louisiana; Dr. R. H. Rigdon, Secretary, Memphis, Tennessee.

Section on Neurology and Psychiatry—Dr. David C. Wilson, Chairman, Charlottesville, Virginia; Dr. Theodore A. Watters, Vice-Chairman, New Orleans, Louisiana; Dr. Cobb Pilcher, Secretary, Nashville, Tennessee.

Section on Radiology—Dr. Edwin C. Ernst, Chairman, St. Louis, Missouri; Dr. J. Cash King, Vice-Chairman, Memphis, Tennessee; Dr. W. R. Brooksher, Secretary, Fort Smith, Arkansas.

Section on Dermatology and Syphilology—Dr. Howard King, Chairman, Nashville, Tennessee; Dr. A. H. Conrad, Vice-Chairman, St. Louis, Missouri; Dr. Alan Brown, Secretary, Jacksonville, Florida.

Section on Allergy—Dr. Marion T. Davidson, Chairman, Birmingham, Alabama; Dr. C. Malone Stroud, Vice-Chairman, St. Louis, Missouri; Dr. Clarence K. Weil, Secretary, Montgomery, Alabama.

Section on Surgery—Dr. Claude J. Hunt, Chairman, Kansas City, Missouri; Dr. J. Duffy Hancock, Vice-Chairman, Louisville, Kentucky; Dr. J. A. Crisler, Jr., Secretary, Memphis, Tennessee.

Section on Bone and Joint Surgery—Dr. F. Walter Carruthers, Chairman, Little Rock, Arkansas; Dr. Guy W. Leadbetter, Vice-Chairman, Washington, D. C.; Dr. Winthrop M. Phelps, Secretary, Baltimore, Maryland.

Section on Gynecology—Dr. E. C. Hamblen, Chairman, Durham, North Carolina; Dr. W. O. Johnson, Vice-Chairman, Louisville, Kentucky; Dr. John T. Sanders, Secretary, New Orleans, Louisiana.

Section on Obstetrics—Dr. Joseph W. Reddoch, Chairman, New Orleans, Louisiana; Dr. Robert E. Seibels, Vice-Chairman, Columbia, South Carolina; Dr. R. A. White, Secretary, Asheville, North Carolina.

Section on Urology—Dr. Grayson Carroll, Chairman, St. Louis, Missouri; Dr. Edward H. Ray, Vice-Chairman, Lexington, Kentucky; Dr. Austin I. Dodson, Secretary, Richmond, Virginia.

Section on Proctology—Dr. Frederick B. Campbell, Chairman, Kansas City, Missouri; Dr. Maurice Lescale, Vice-Chairman, New Orleans, Louisiana; Dr. W. K. McIntyre, Secretary, St. Louis, Missouri.

Section on Railway Surgery—Dr. J. J. Brandabur, Chairman, Huntington, West Virginia; Dr. Duncan Eve, Secretary, Nashville, Tennessee.

Section on Ophthalmology and Otolaryngology—Dr. W. Likely Simpson, Chairman, Memphis, Tennessee; Dr. L. Chester McHenry, Chairman-Elect, Oklahoma City, Oklahoma; Dr. Kate Savage Zerfoss, Vice-Chairman, Nashville, Tennessee; Dr. J. W. Jervey, Jr., Secretary, Greenville, South Carolina.

Section on Anesthesia—Dr. George S. Mechling, Chairman, Oklahoma City, Oklahoma; Dr. Russell F. Bonham, Vice-Chairman, Houston, Texas; Dr. Merrill C. Beck, Secretary, New Orleans, Louisiana.

Section on Medical Education and Hospital Training—Dr. Harvey B. Haag, Chairman, Richmond, Virginia; Dr. S. I. Kornhauser, Vice-Chairman, Louisville, Kentucky; Dr. John W. Spies, Secretary, Galveston, Texas.

Section on Public Health—Dr. Henry C. Ricks, Chairman, Jackson, Mississippi; Dr. Harry F. Parker, Vice-Chairman, Warrensburg, Missouri; Dr. Hugh R. Leavell, Secretary, Louisville, Kentucky.

American Public Health Association, Southern Branch (meeting conjointly with Southern Medical Association)—Dr. Felix J. Underwood, President, Jackson, Mississippi; Dr. B. F. Wyman, First Vice-President, Columbia, South Carolina; Mr. Richard Messer, Second Vice-President, Richmond, Virginia; Miss Pearl Barclay, Third Vice-President, Montgomery, Alabama; Dr. P. E. Blackerby, Secretary-Treasurer, Louisville, Kentucky.

National Malaria Committee (meeting conjointly with Southern Medical Association)— Dr. L. O. Howard, Honorary Chairman, Washington, D. C.; Dr. J. N. Baker, Chairman, Montgomery, Alabama; Mr. John H. O'Neill, Chairman-Elect, New Orleans, Louisiana; Mr. W. H. W. Komp, Vice-Chairman, Ancon, Canal Zone; Dr. Mark F. Boyd, Secretary-Treasurer, Tallahassee, Florida.

American Society of Tropical Medicine (meeting conjointly with Southern Medical Association)—Dr. Thomas T. Mackie, President, New York, New York; Dr. Ernest Carroll Faust, President-Elect, New Orleans, Louisiana; Dr. Fred L. Soper, Vice-President, Rio de Janeiro, Brazil; Dr. E. Harold Hinman, Secretary-Treasurer, Wilson Dam, Alabama; Dr. Charles F. Craig, Editor, San Antonio, Texas. *American Academy of Tropical Medicine* (meeting conjointly with American Society of Tropical Medicine)—Dr. Marshall A. Barber, President, Savannah, Georgia; Dr. Herbert A. Clark, Vice-President, Panama, R. de P.; Dr. Ernest Carroll Faust, Secretary, New Orleans, Louisiana; Dr. Thomas T. Mackie, Treasurer, New York, New York.

Southern Association of Anesthetists (meeting conjointly with Southern Medical Association)—Dr. T. L. Tidmore, President, Atlanta, Georgia; Dr. R. Douglas Sanders, President-Elect, Louisville, Kentucky; Dr. C. E. Stindel, Vice-President, St. Louis, Missouri; Dr. Dougal M. Dollar, Secretary-Treasurer, Louisville, Kentucky.

Mississippi Valley Student Health Association (meeting conjointly with Southern Medical Association)—Dr. R. M. Powell, President, Knoxville, Tennessee; Dr. C. B. Mitchell, Vice-President, State College, Mississippi; Dr. Ruby H. Paine, Secretary-Treasurer, Berea, Kentucky.

Women Physicians of the Southern Medical Association—Dr. Nora D. Dean, Chairman, Louisville, Kentucky; Dr. Emma Moss, Vice-Chairman, New Orleans, Louisiana; Secretary to be appointed.

Woman's Auxiliary to the Southern Medical Association—Mrs. M. Pinson Neal, President, Columbia, Missouri; Mrs. J. U. Reaves, President-Elect, Mobile, Alabama; Mrs. W. T. Wootten, First Vice-President, Hot Springs, Arkansas; Mrs. Philip E. Blackerby, Second Vice-President, Louisville, Kentucky; Mrs. Floyd F. Kirby, Recording Secretary, Waco, Texas; Mrs. Harvey F. Garrison, Treasurer, Jackson, Mississippi; Mrs. Harry M. Gilkey, Corresponding Secretary, Kansas City, Missouri.

SOUTHERN MEDICAL ASSOCIATION

Minutes of Thirty-Fourth Annual Meeting

Louisville, Kentucky, November 12-15, 1940

GENERAL PUBLIC SESSION

Tuesday, November 12, 8:00 p. m.

A General Session, to which the public was invited, was held at the Louisville Memorial Auditorium, Louisville, Kentucky, and was called to order by the General Chairman, Dr. E. L. Henderson, Louisville, who presented the President, Dr. Arthur T. McCormack, Louisville, who presided.

His Excellency, Hon. Keen Johnson, Governor of Kentucky, Frankfort, gave an Address of Welcome.

Dr. James E. Paullin, Professor of Clinical Medicine, Emory University School of Medicine, Atlanta, Georgia, presented the subject "Syphilis Control in National Preparedness."

Dr. Irvin Abell, Coordinator of Medical Preparedness for the United States, and Past-President of the Southern Medical Association, Louisville, presented the subject "The Responsibility of Medicine in War and Peace."

Rev. Alphonse M. Schwitalla, S.J., Ph.D., Dean, St. Louis University School of Medicine, St. Louis, Missouri, presented the subject "Society's Debts to the Doctor."

Preceding the speaking a musical program was rendered by the University of Louisville Band.

GENERAL SESSION

PRESIDENT'S NIGHT

Wednesday, November 13, 8:00 p. m.

The Association met in General Session at the Brown Hotel, Crystal Ballroom, Louisville, and was called to order by Dr. E. L. Henderson, Louisville, General Chairman for the Committee on Arrangements, who presided during the first part of the session.

Rev. Henry H. Sweets, D.D., LL.D., Southern Presbyterian Church, Louisville, delivered the invocation.

Dr. E. Lee Heflin, President, Jefferson County (Louisville) Medical Society, Louisville, delivered an Address of Welcome in behalf of the Society.

Dr. Austin Bell, President, Kentucky State Medical Association, Hopkinsville, delivered an Address of Welcome in behalf of the Association.

Dr. William H. Myers, Savannah, Georgia, responded to the Addresses of Welcome in behalf of the Southern Medical Association.

The General Chairman, Dr. E. L. Henderson, then introduced the President of the Southern Medical Association, Dr. Arthur T. McCormack, Louisville, who presided during the remainder of the session.

Sitting with the President, by his invitation, in addition to the Past-Presidents of the Southern Medical Association, were a number of the Presidents of other medical associations, state, regional and national, and members of the Council of the Southern Medical Association, all being individually introduced by the President, Dr. McCormack.

The Southern Medical Association's Research Medal was presented to Dr. Alfred Blalock, Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee, "in recognition of his distinguished contributions to knowledge of the circulation, especially in relation to shock," the presentation being made, at the request of the President, by Dr. Kenneth M. Lynch, Charleston, South Carolina, Chairman of the Research Committee and himself a recipient (1921) of the Research Medal.

Dr. Arthur T. McCormack, President of the Southern Medical Association, Louisville, delivered his President's Address, entitled "The Great Physician."

At this point on the program there was to be the installation of the incoming President, the President-Elect, Dr. Quitman U. Newell, of St. Louis, Missouri. Dr. Newell died suddenly just a week before the meeting. The President, Dr. McCormack, called on Dr. Alphonse McMahon, of St. Louis, member of the Council from Missouri and a friend and colleague of Dr. Newell, who spoke as follows:

President McCormack, Honored Guests, Ladies and Gentlemen:

It is unfortunate in this moment of happiness to be forced to inject a note of sadness. We are deeply grieved at the loss of our dear friend and colleague, Quitman Underwood Newell. His sudden death on November 4 came as a shock to all those who knew him and loved him.

His departure from this life, coming as it did one week before this meeting, deprived him of the full realization of what he had considered the greatest honor that had ever come to him. I am quite sure, however, that he would not want the grief at his passing to cloud in any way the joy of this occasion. If Divine Providence had seen fit to grant Dr. Newell this realization and had he been permitted to grace this platform in person instead of in spirit, as he does now, he would have conveyed to you this thought, that he had been honored far beyond his capacity to discharge completely the duties and obligations associated with the great office of President of this Association. He would have expressed to you in his own forceful and inimitable way the intensity of his happiness at being so honored by you and he would have given you a much clearer idea than I can give you of the depth of his feeling for this organization.

I knew Quit, as we familiarly called him, perhaps as well as anyone and we were never together long without the conversation turning to the Southern Medical Association. He loved to talk about it and in the past year, as President-Elect, he lived and breathed only the Association. The sacrifice of his time and energy that he so cheerfully made whenever he was called upon to do so was typical of the man. He was tireless in his praise of this organization, working energetically to increase the membership and to bring to other physicians the opportunity to share in the pleasures he enjoyed as a member.

It is unnecessary for me to speak at length on the personal

and professional qualities possessed by our dear friend. His friends, who are legion, are well aware of his thoughtfulness, his consideration, his kindliness, his forceful personality and his sincerity, all qualities that rendered him to everyone fortunate enough to have known him as a friend.

Were I to select from all the qualities possessed by Dr. Newell, one that was most predominant and completely characteristic of the man, I would unhesitatingly select his capacity for friendship. Quit was truly a friend of men. His capacity for friendship was boundless. He was proud of his friends and dynamic in his affection for them. He was made happy in the knowledge that he could call them such. No task was too great, no sacrifice too extreme whenever he was given an opportunity to serve them. One of the regrets of his life was that he was unable, owing to the numerous duties of his profession, to enjoy these friends as frequently and as long as he wished.

We are all better for having known Quit Newell. The memory of his friendship will remain with us always. Many members of this Association have benefited through his great professional skill and through his frankness and sincerity of purpose.

The Southern Medical Association has lost a great friend in his passing, but I believe that the spirit of this man will live with us always, serving to stimulate us to rise to even greater heights in the work which this organization has been carrying on these many years. This I know is what would most please him and were he able to express what would have been uppermost in his heart tonight he would say without hesitancy, "God bless the Southern Medical Association."

Following the above remarks the assembly arose and stood in silence in memory of Dr. Newell.

REPORT OF COUNCIL

Dr. Vincent W. Archer, Charlottesville, Virginia, Chairman of the Council, presented the following report for the Council:

To the Members of the Southern Medical Association:

The Council convened in three sessions at the Brown Hotel, Louisville, Kentucky, Monday, Tuesday and Wednesday, November 11-12-13, 1940. Present on Monday: Dr. Vincent W. Archer, Chairman, Charlottesville, Virginia; Dr. E. W. Rucker, Jr., Birmingham, Alabama; Dr. S. J. Wolfermann, Fort Smith, Arkansas; Dr. E. L. Henderson, Louisville, Kentucky; Dr. Lucien A. LeDoux, New Orleans, Louisiana; Dr. William H. Anderson, Booneville, Mississippi; Dr. Alphonse McMahon, St. Louis, Missouri; Dr. Hamilton W. McKay, Charlotte, North Carolina; Dr. Robert M. Anderson, Shawnee, Oklahoma; Dr. Horton Casparis, Nashville, Tennessee; Dr. Guy F. Witt, Dallas, Texas; and Dr. R. J. Wilkinson, Huntington, West Virginia. Present on Tuesday: All those present on Monday and in addition Dr. Oscar B. Hunter, Washington, District of Columbia; Dr. Luther W. Holloway, Jacksonville, Florida; Dr. Marion C. Pruitt, Atlanta, Georgia; and Dr. Kenneth M. Lynch, Charleston, South Carolina. Present on Wednesday: All those present on Tuesday and in addition Dr. J. M. T. Finney, Jr., representing Dr. J. Mason Hundley, Jr., Baltimore, Maryland. Sitting with the Council: Dr. Arthur T. McCormack, President, Louisville, Kentucky; Mr. C. P. Loranz, Secretary-Manager, Birmingham, Alabama; Dr. M. Y. Dabney, Editor, Birmingham, Alabama; and Councilors-Elect, Dr. Walter C. Jones, Miami, Florida; Dr. J. Warren White, Greenville, South Carolina; and Dr. Thomas W. Murrell, Richmond, Virginia.

To clarify the meaning and intent of Article 2 of the Constitution, the Council approved and presented in their report to you last year an amendment to the Article, this amendment being then laid on the table for final action at this annual meeting. The amendment is again presented and your approval of this report amends that Article as follows:

RESOLVED, That the Southern Medical Association, a corporation organized and existing under the laws of the State of Alabama, amend "Article 2—Purpose" of its Constitution by inserting immediately following the first word in said Article 2 the word "exclusive" and striking from the first sentence of said Article 2 the words "and medical fraternalism" so that said Article 2 shall read as follows:

ARTICLE 2—Purpose. The exclusive purpose of this Association shall be to develop and foster scientific medicine. It shall have no direct connection with or control over any other society or organization, nor shall it at any time be controlled by any other society or organization. All meetings of the Association shall be for the sole purpose of reading and discussing papers pertaining to the science of medicine, to public health and to medical education. The Association shall not at any time take active part in any economic, political or sectarian questions, or concerted movements for securing legislative enactments.

The Executive Committee, Dr. Vincent W. Archer, Dr. Alphonse McMahon and Dr. E. L. Henderson, reported on the meeting of the Executive Committee held in Louisville in May.

The Council ratified an action by mail approving the recommendation of the Executive Committee, making the five last recipients of the research medal the Research Medal Committee for the recommendation of those to whom the medal should be bestowed.

The Council ratified a vote by mail approving the action of the Research Medal Committee in awarding the research medal to Dr. Alfred Blalock, Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee, "in recognition of his distinguished contributions to knowledge of the circulation, especially in relation to shock."

The Council approved a recommendation from the Executive Committee that the Committee to judge the scientific exhibits be composed of five, to be appointed by the Chairman of the Council, one from the Section on Medicine, one from the Section on Surgery, and one from the Section on Pathology each year, the other two to come from other sections, one member of this Committee to be a member of the Council and to be Chairman of the Committee.

The Council stood silently with bowed heads in memory of Dr. Quitman U. Newell, of St. Louis, Missouri, President-Elect, who died on Monday, November 4. A Committee, composed of Dr. Alphonse McMahon, Dr. Hamilton W. McKay and Dr. Lucien A. LeDoux, was appointed to prepare suitable resolutions on the death of Dr. Newell. The Committee, at a subsequent meeting, reported as follows:

DR. QUITMAN U. NEWELL

WHEREAS, the Divine Creator has taken from our midst Dr. Quitman U. Newell, our close friend, esteemed colleague and loyal member of the Southern Medical Association; and,

WHEREAS, in his death we are deprived of his counsel, advice, leadership and many other qualities which endeared him to all of us, and his passing has taken from the medical profession one of its leaders and outstanding characters; and,

WHEREAS, in his death the Southern Medical Association has suffered a sincere and irreparable loss, therefore,

BE IT RESOLVED, that we, the members of the Council of the Southern Medical Association in meeting assembled in Louisville, on Wednesday, November 13, 1940, do hereby express our deep sympathy and profound regret at his loss; and,

BE IT FURTHER RESOLVED, that a copy of this resolution be attached to and form a part of the minutes of this meeting, and that a copy be sent to the bereaved family of Dr. Newell.

(Signed) DR. ALPHONSE MCMAHON
DR. HAMILTON W. MCKAY
DR. LUCIEN A. LEDOUX
Committee.

The Council considered invitations from the Harris County Medical Society, Houston, Texas, and from the St. Louis Medical Society, St. Louis, Missouri, for the 1941 meeting, these invitations having been presented at the Memphis meeting last year to be acted upon at this meeting. After hearing representatives from both cities, the Council voted to hold the 1941 meeting in St. Louis, Missouri.

The Council considered the advisability of having the first session of the Council meeting on Monday preceding the formal opening of the Association on Tuesday, and upon motion duly carried it was moved that the first meeting of the Council next year will be held on Monday.

The Report of the Board of Trustees, incorporating the report of the Secretary-Manager, was read and approved:

REPORT OF TRUSTEES

To the Council of the Southern Medical Association:

The Trustees of the Southern Medical Association met in Room 436 of the Brown Hotel, Louisville, Kentucky, Wednesday, November 13, at 8:00 a. m. Present: Dr. Hugh Leslie Moore, Chairman, Dallas, Texas; Dr. Walter E. Vest, Huntington, West Virginia; Dr. Seale Harris, Birmingham, Alabama, representing Dr. Frank K. Boland, Atlanta, Georgia; Dr. Felix J. Underwood, Jackson, Mississippi, representing Dr. H. Marshall Taylor, Jacksonville, Florida; and Dr. A. T. McCormack, Louisville, Kentucky, representing Dr. Fred M.

Hodges, Richmond, Virginia. Sitting with the Trustees: Mr. C. P. Loranz, Secretary-Manager, Birmingham, Alabama.

The Secretary-Manager, Mr. C. P. Loranz, presented his report for the fiscal year ending October 31, 1940. The report was approved as presented and Mr. Loranz was extended the thanks and appreciation of the Board for the splendid showing for the year. The report is here transmitted to the Council.

The Board recommends a salary increase of $50.00 per month to the Secretary-Manager and $25.00 per month to the Editor.

There being no further business, the Trustees adjourned.

(Signed) HUGH LESLIE MOORE, *Chairman.*

REPORT OF SECRETARY-MANAGER

To the Southern Medical Association:

A detailed financial statement for the fiscal year ending October 31, 1940, is here given and is self-explanatory. It will be noted that the net profit for the year is $1,607.80. The cash on hand in bank as shown by the cash book is $2,944.27.

Included in the assets of the Association are registered United States Government Bonds, purchase value $30,156.40. Of these there are Treasury Bonds, for which we paid $9,831.40, par value $10,000.00 due 1946/1956, yielding 3¼ per cent interest; and United States Savings Bonds, for which we paid $20,325.00, payable in ten years, yielding approximately 2.9 per cent per year for the ten-year period. The purchase of these bonds was authorized by the Board of Trustees.

The books of the Association are being audited by Francis B. Latady & Company, Certified Public Accountants.

Last year we reported 7,463 members, and during the year we received 872 new members. The losses from resignations, deaths and suspensions were 729, leaving a net membership at this time of 7,606, a net gain for the year of 143. A comparative statement of membership for the past seven years accompanies this report.

As your Secretary, Treasurer and General Manager, carrying the title of Secretary-Manager, I have endeavored this year, as I have in past years, to conduct your affairs in a satisfactory manner, trying at all times to be faithful and efficient. I have tried to be as economical as possible and to carry on the Association activities at the lowest cost without curtailing any more than possible the size of the JOURNAL each month and other Association activities.

Continued on page 108

MEMBERSHIP BY STATES

The following is a comparative statement of the membership of the Southern Medical Association for the past seven years:

	1934	1935	1936	1937	1938	1939	1940
Alabama	513	458	466	452	439	426	427
Arkansas	220	202	219	227	207	246	303
District of Columbia	157	154	173	192	180	164	172
Florida	404	372	355	383	378	374	375
Georgia	502	524	506	543	522	548	535
Kentucky	228	332	345	340	327	359	527
Louisiana	419	443	420	523	588	544	489
Maryland	252	245	482	522	486	412	393
Mississippi	345	333	297	347	370	372	380
Missouri	199	419	521	486	432	462	522
North Carolina	375	365	402	431	410	375	369
Oklahoma	236	258	262	258	515	744	662
South Carolina	204	185	193	218	215	198	187
Tennessee	464	459	471	459	455	474	602
Texas	944	1160	1102	914	1038	1036	956
Virginia	402	382	384	417	403	411	393
West Virginia	185	183	211	217	241	246	244
Other States and Foreign	83	93	102	92	75	72	70
Totals	6132	6567	6911	7021	7281	7463	7606

BALANCE SHEET

Balance Sheet, Southern Medical Association, Fiscal Year Ending October 31, 1940 (November 1, 1939, to October 31, 1940)

		Debits	*Credits*
Surplus			$ 42,846.99
U. S. Government Bonds		$ 30,156.40	
Furniture and Fixtures		4,845.02	
Profit and Loss		548.57	
Paper Stock (print paper on hand)		5,108.31	
Depreciation			1,544.98
Revenue			
Advertising	$27,560.23		
Dues	27,633.30		
Subscriptions	1,614.63		
Reprints	390.18		
Exhibits	20,095.00		
Interest on Bonds and Sav.	375.00		
Paper Stock Profit	1,654.49		
Interest and Discount	515.50—		79.838.33
Expenses			
Publishing	$21,009.60		
Cuts and Electros	2,100.24		
Journal Wrappers	515.21		
Second Class Postage	1,445.00		
Office Postage	2,855.06		
Salary	21,939.75		
Section Stenographers	1,900.00		
Stationery and Printing	4,129.38		
Office Supplies and Expense	750.09		
Telephone and Telegraph	510.18		
Office Rent	1,937.40		
Subscription Commissions	25.00		
Advertising Expense	263.65		
Addressograph Expense	69.21		
Traveling Expense	3,362.25		
Expense at Memphis	12,431.56		
Banking Expense	20.74		
Publicity Consulting Service	120.00		
Section Secretaries' Expense	156.75		
Woman's Auxiliary	250.00		
General Expense	1,890.89—	77,681.96	
Accounts Receivable (owe us)		3,155.97	
Accounts Payable (we owe)			210.20
Cash		2,944.27	
		$124,440.50	$124,440.50

SUMMARY OF EARNINGS

Revenue Accounts	$79,838.33
Expense Accounts	77,681.96
Gross Profit	$ 2,156.37
Less Profit and Loss	548.57
Net Profit for Year Ending October 31, 1940	$ 1,607.80

SURPLUS ACCOUNT

Surplus, October 31, 1939	$42,846.99
Net Profit for Year Ending October 31, 1940	1,607.80
Surplus, October 31, 1940	$44,454.79

STATEMENT OF ASSETS AND LIABILITIES

October 31, 1940

Assets

U. S. Government Bonds	$30,156.40
Paper Stock (print paper on hand)	5,108.31
Furniture & Fixtures (Net—Less Depreciation)	3,300.04
Accounts Receivable (owe us)	3,155.97
Cash	2,944.27
	$44,664.99

Liabilities

Surplus	$44,454.79
Accounts Payable (we owe)	210.20
	$44,664.99

Continued from page 107

I wish to express my appreciation for the cooperation of the President, Dr. Arthur T. McCormack, and all other officers, general and of the sections, and the Editor, Dr. M. Y. Dabney, and Associate Editor, Mrs. Dabney, and all those working with me at headquarters, as well as the General Chairman for the Louisville meeting, Dr. E. L. Henderson, and those working with him. I appreciate their help and cooperation.

(Signed) C. P. LORANZ, *Secretary-Manager.*

REPORT OF AUDITOR

Southern Medical Association:

We have audited the books and accounts of the Southern Medical Association for the fiscal year ending October 31, 1940, and

WE HEREBY CERTIFY that in our opinion the Trial Balance, Summary of Earnings, Surplus Account and Statement of Assets and Liabilities, which are hereto attached, correctly set forth the condition of the Southern Medical Association as at October 31, 1940, and the results of its operations for the fiscal year ending on that date.

The Southern Medical Association holds a reserve of $30,156.40 invested in United States Government Bonds at cost, this investment being unchanged from the previous year. At the meeting of your Trustees held November 16, 1938, the Secretary-Manager was authorized to bring this reserve up to $30,000.00, and it was the judgment of the Trustees that this reserve fund being sufficient to guarantee economic security, the future excess of earnings over expenses should be used for the advancement of scientific medicine in the South. Accordingly, during the fiscal year ending October 31, 1940, there were no additions to this reserve fund, and the receipts, as will appear from the Trial Balance, have been used in accordance with the judgment of the Trustees. The bonds in this reserve fund were examined, in the presence of the Secretary-Manager, and, as usual, were found in perfect order.

We again commend your staff upon the fine condition of the records, and express our gratitude for the cooperation given us during the course of our examination.

(Signed) FRANCIS B. LATADY & CO.
Certified Public Accountants,
FRANCIS B. LATADY, C.P.A.

Birmingham, Alabama, November 27, 1940.

Dr. Lucien A. LeDoux, New Orleans, Louisiana, presented the following resolution, which was unanimously adopted:

MEDICINE IN NATIONAL DEFENSE

WHEREAS, the matter of preparedness and national defense has been presented before this meeting of the Southern Medical Association on several occasions in Louisville, Kentucky, during the period of November 12-15, 1940, inclusive; and,

WHEREAS, the Southern Medical Association has taken cognizance of the medical needs in preparedness and wishes to give expression to its desire to be sincerely and fully cooperative in this undertaking; therefore,

BE IT RESOLVED, that this Association endorses the plans which have been developed and outlined for the medical care of the armed forces, the forces of industry and the civil population; and

BE IT FURTHER RESOLVED, that this Association tenders to the President of the United States its wholehearted support in every way at its command toward facilitating the execution of the plans drawn as they relate to medicine in national defense; and

BE IT FURTHER RESOLVED, that a copy of this be presented to the President of the United States as an expression of our patriotic duty.

The Council, speaking for the Association, expresses to the Jefferson County Medical Society, the hotels, the press and the radio broadcasting stations of Louisville and to all others who have contributed so much to the success of the meeting in this City their sincere appreciation for the hospitality extended to us while guests in Louisville. It is the opinion of the Council that this, the Louisville meeting, has been one of the best in the history of the Association. Those who are in attendance have enjoyed the sincere hospitality of the profession and feel that a great measure of credit for the success of the meeting is due to the interest manifested by the local profession and by the citizens of Louisville.

By rising vote the Council extended personal thanks to their fellow member, Dr. E. L. Henderson, Louisville, who is General Chairman for the Louisville meeting, and to the retiring Councilors who have rendered such a splendid service during their term as Councilors, Dr. Luther W. Holloway, Jacksonville, Florida; Dr. Kenneth M. Lynch, Charleston, South Carolina; Dr. Vincent W. Archer, Charlottesville, Virginia; and Dr. Guy F. Witt, Dallas, Texas.

The Council elected Dr. Lucien A. LeDoux, New Orleans, Louisiana, to membership on the Executive Committee for a term of three years.

The Council elected Dr. Alphonse McMahon, St. Louis, Missouri, Chairman of the Executive Committee.

The Council proceeded to the election of three Trustees for a term of two years each, the terms of Dr. Hugh Leslie Moore, Dallas, Texas, Dr. Fred M. Hodges, Richmond, Virginia, and Dr. J. W. Jervey, Greenville, South Carolina, expiring with this meeting. According to precedent, Dr. Moore, oldest member in point of service, was retired. Dr. Hodges and Dr. Jervey were reelected, and the outgoing President, Dr. Arthur T. McCormack, Louisville, Kentucky, was reelected to the place of Dr. Moore.

The Council elected Dr. Hamilton W. McKay, Charlotte, North Carolina, as its Chairman for next year.

The Council adjourned as an executive body to meet in St. Louis, Missouri, at the regular meeting in 1941.

The Council convened as a Nominating Committee for the general officers of the Association, these nominations to be presented later in the regular order of business.

(Signed) VINCENT W. ARCHER, *Chairman.*

It was moved that the Report of the Council be adopted, was duly seconded, and carried without a dissenting vote.

REPORT OF NOMINATING COMMITTEE

Dr. Vincent W. Archer, Charlottesville, Virginia, Chairman of the Nominating Committee, presented the report of the Committee:

The Council, as your Nominating Committee, presents for your consideration the following:

For President: Dr. Paul H. Ringer, Asheville, North Carolina.

For President-Elect: Dr. M. Pinson Neal, Columbia, Missouri.

For First Vice-President: Dr. E. Lee Heflin, Louisville, Kentucky.

For Second Vice-President: Dr. James R. Bloss, Huntington, West Virginia.

For Editor: Dr. M. Y. Dabney, Birmingham, Alabama, for a term of three years.

For Associate Editor: Mrs. M. Y. Dabney, Birmingham, Alabama, for a term of three years.

Your Secretary, Treasurer and General Manager, carrying the title of Secretary-Manager, Mr. C. P. Loranz, was elected four years ago for a term of five years.

(Signed) VINCENT W. ARCHER, *Chairman.*

It was moved that the Report of the Nominating Committee be adopted. The motion was duly seconded and carried without a dissenting vote. The President, Dr. McCormack, declared the nominees duly elected.

Dr. Paul H. Ringer, Asheville, North Carolina, newly elected President of the Southern Medical Association, was escorted to the platform and introduced by the

President, Dr. McCormack. Dr. Ringer, in accepting the office of President, said:

Mr. President, Members of the Southern Medical Association, Ladies and Gentlemen:

I have no idea whatsoever of making a speech this evening. I shall have to make one a year hence. But I should like to say I stand here with very mixed emotions. Some of them are selfish, I will grant you that. I feel tremendously honored that an organization like the Southern Medical Association should have seen fit to bestow its Presidency upon me and also upon the State of North Carolina, of which I am an adopted resident. I feel very happy about that. On the other hand, there is a cloud on the horizon and it is a very large cloud.

The reason I stand here tonight as your President for the next year is that the hand of death has closed a life that should rightfully have taken the place that I now occupy, and I mourn the fact that that life is no more. I did not know Dr. Newell well. I knew him most casually. I knew, however, that he was President-Elect of the Southern Medical Association which, to me, enhanced his value tremendously, and that by an act of fate he should be gone and I should be here does not seem right, but I will do my best.

Dr. M. Pinson Neal, Columbia, Missouri, newly elected President-Elect of the Southern Medical Association, was escorted to the platform and introduced by the President, Dr. McCormack. Dr. Neal, in accepting the office of President-Elect, said:

Mr. President, Fellow Members of the Southern Medical Association, Ladies and Gentlemen:

I offer to you the most sincere thanks for the great state of Missouri and for the institution I represent, the University of Missouri, for this honor which I accept in all seriousness. The trust and confidence that this Council and you, by your vote, have proffered to me are thoroughly appreciated and cherished. I pledge to you, and to President Ringer during his year of service, that your and his wishes shall be my command. I thank you.

Dr. E. Lee Heflin, Louisville, newly elected First Vice-President, Dr. James R. Bloss, Huntington, West Virginia, newly elected Second Vice-President, Dr. M. Y. Dabney, Birmingham, Alabama, re-elected Editor, and Mrs. M. Y. Dabney, Birmingham, Alabama, re-elected Associate Editor, were introduced by the President, Dr. McCormack.

After announcements by the General Chairman, Dr. Henderson, the General Session adjourned, and with the completion of the programs by the Sections in session Thursday and until noon Friday, the Association adjourned to meet in St. Louis, Missouri, November 11-14, 1941.

SCIENTIFIC AWARDS

The Committee on Scientific Awards presented the following report:

Your Committee on Scientific Awards visited the scientific exhibits and, after studying the exhibits, make the following report:

First award to Dr. V. P. Sydenstricker, University of Georgia School of Medicine, Augusta, Georgia, for his exhibit on common vitamin deficiencies.

Second award to Dr. Herbert E. Hipps, Marlin, Texas, for his exhibit on muscle pathology in anterior poliomyelitis.

Third award to Dr. Paul L. Day, Dr. William J. Darby and Dr. K. W. Cosgrove, University of Arkansas School of Medicine, Little Rock, Arkansas, for their exhibit on xylose and galactose cataract.

Honorable mention to—

Dr. R. J. Reeves and Dr. W. S. Wallace, Duke University School of Medicine, Durham, North Carolina, for their exhibit on bronchomycosis.

Dr. Seale Harris, Birmingham, Alabama, for his exhibit on (1) genesis of pellagra, (2) pellagra, pernicious anemia and sprue, and (3) dietary management of pellagra.

Dr. Fred Hames, Pine Bluff, Arkansas, for his exhibit on moulages of malignant and other lesions.

(Signed) William B. Porter, *Chairman*
Edwin P. Lehman,
M. Pinson Neal,
Kate Savage Zerfoss,
Edwin C. Ernst,
Committee.

The Committee on Scientific Awards consists each year of five Association members, one from the Section on Medicine, one from the Section on Surgery, one from the Section on Pathology, and the other two to be selected from other sections. The Committee is appointed by the Chairman of the Council.

HOBBY AWARDS

Dr. Jesshill Love, Louisville, Chairman of the Hobby Committee, makes the following report for his Committee:

The Association had its first Hobby Exhibit in connection with the Louisville meeting. The Hobby Committee decided to divide the exhibit into four classifications: (1) Paintings, (2) Photography, (3) Sculpture, and (4) Collections, with a first, second and third award in each classification.

A committee of seven was chosen to judge the exhibits, five physicians and two laymen, all amateur or professional artists, the physician members of the Committee not having anything in the exhibit or being a member of the Hobby Committee. The Committee made the following awards:

PAINTINGS

First award to Dr. Victor Alfaro, Washington, D. C., for his oil painting of a street scene.

Second award to Dr. H. L. D. Kirkham, Houston, Texas, for his oil painting of a landscape.

Third award to Dr. Nora Dean, Louisville, Kentucky, for her oil painting of a pair of herons.

PHOTOGRAPHY

First award to Dr. R. Glen Spurling, Louisville, Kentucky, for his brom oil transfer of a colored boy.

Second award to Dr. Carrol C. Turner, Memphis, Tennessee, for his composition photograph of a rustic scene.

Third award to Dr. A. Thornton Scott, Lexington, Kentucky, for his sea-scape photograph of a yacht.

SCULPTURE

First award to Dr. W. O. Bullock, Lexington, Kentucky, for his clay model of the ape Susie.

Second award to Dr. George H. Noble, Jr., Atlanta, Georgia, for his bronze cast of the head of a child.

Third award to Dr. W. O. Bullock, Lexington, Kentucky, for his plaster cast of a girl's head.

COLLECTIONS

First award to Dr. R. Alexander Bate, Louisville, Kentucky, for his collection of semi-precious stones, Ohio Valley glacial stones and geologics.

Second award to Dr. J. A. Bishop, Jeffersontown, Kentucky, for his collection of foreign butterflies.

Third award to Dr. F. W. Urton, Louisville, Kentucky, for his collection of colonial pistols.

There were forty-eight individuals who had one or more pieces in the Hobby Exhibit. Much interest was shown in the Exhibit throughout the meeting.

(Signed) Jesshill Love, *Chairman.*

GOLF TOURNAMENT

Dr. D. Y. Keith, Louisville, Chairman of the Golf Committee, makes the following report for his Committee:

The twentieth annual Golf Tournament for physicians of the Southern Medical Association was held in Louisville, Kentucky, at the Louisville Country Club on Wednesday and Thursday, November 13-14.

Dr. Jere L. Crook, Jackson, Tennessee, won the tournament for low gross, senior class (physicians fifty and over) with a score of 91, receiving the Ralston Purina Cup, the major trophy for this event.

Dr. R. B. Holt, Louisville, Kentucky, and Dr. Brandon Carrell, Dallas, Texas, tied with a score of 79 in the tournament for low gross, junior class (physicians under fifty), the major trophy being the Oklahoman and Times Cup.

The Schwarzschild Cup, the major trophy for the runner-up in low gross, was involved in the tie between Dr. Holt and Dr. Carrell. Inasmuch as the Oklahoman and Times Cup was won by Dr. Carrell in the 1939 tournament, it was agreed that Dr. Holt should retain this cup for this next year, both names being engraved on the cup, the Schwarzschild Cup to be retained by Dr. Carrell.

Dr. J. F. Barker, Huntington, West Virginia, won the handicap trophy for low net with a score of 85, handicap 18, net 67, receiving the Dallas Morning News Cup, the major trophy for this event.

Dr. C. F. Simpson, Tulsa, Oklahoma, with a score of 67, Dr. W. O. Poindexter, Newport News, Virginia, with a score of 79, Dr. Alfred Blalock, Nashville, Tennessee, with a score of 79 and Dr. C. R. Thomas, Chattanooga, Tennessee, with a score of 80, were the winners of the prizes in the kickers automatic handicap.

Dr. A. T. Martin, Memphis, Tennessee, received the prize for high on eighteen holes, with a score of 108.

Dr. T. C. Crowell, Chattanooga, Tennessee, received the prize for blind hole, with a score of four on the No. 8 hole.

Mrs. C. J. Hunt, Kansas City, Missouri, won the ladies trophy with a score of 99.

The Oklahoman and Times Cup, the Dallas Morning News Cup, the Schwarzschild Cup and the Ralston Purina Cup must be won three times in succession by the same golfer to become the permanent possession of any golfer. In so far as none of these trophies have been won three times in succession, they will all be in play next year.

(Signed) D. Y. KEITH, *Chairman.*

TRAP SHOOTING TOURNAMENT

Dr. James S. Lutz, Chairman of the Trap Shooting Committee, makes the following report for his Committee:

The fifteenth annual Trap Shooting Tournament of the Southern Medical Association, to which skeet has been added in recent years, was held over the traps of the Highland Park Gun Club, Louisville, Kentucky, Wednesday, November 13, beginning at 1:00 p. m. with the weather cold and windy.

Dr. Malcom E. Phelps, El Reno, Oklahoma, the high man in Class A straight trap, 100-16 yard targets, won a leg on the Atlanta Journal Bowl, the major trophy for this event, with a score of 95. Dr. Phelps won a leg on this cup last year which makes two legs that he has won on this cup.

Dr. W. C. Vernon, Okmulgee, Oklahoma, the high man in Class A skeet, 50 targets, won a leg on the Sharp and Dohme Bowl, the major trophy for this event, with a score of 44. He won a leg last year which makes two legs that he has won on this bowl.

Dr. Malcom E. Phelps, El Reno, Oklahoma, high man in the high over-all, 100-16 yard targets, straight trap, and 50 skeet, won a leg on the Mallinckrodt Bowl, the major trophy for this event, with a score of 134.

Dr. W. E. Fallis, Louisville, with a score of 92, won the prize for the runner-up in Class A, straight trap, 100-16 yard targets.

Dr. J. S. Lutz, Louisville, with a score of 88, won the prize in Class B, straight trap, 100-16 yard targets.

Dr. G. L. Dyer, Buechel, Kentucky, with a score of 79, won the first prize in Class C, straight trap, 100-16 yard targets.

Dr. J. W. Fitch, Louisville, with a score of 37, won the first prize in Class B skeet, 50 targets.

Dr. A. L. Bass and Dr. J. S. Lutz, both of Louisville, each with a score of 33, tied for first prize in Class C skeet, 50 targets, Dr. Lutz winning the prize on the roll of the dice.

The Atlanta Journal Bowl, the Sharp and Dohme Bowl, and the Mallinckrodt Bowl must each be won three times by the same shooter to be the permanent possession of any shooter. No one having won these trophies three times, they will be in competition at the Tournament shoot again next year.

Owing to the cold weather there were not as many shooters out as had been expected, but the shoot went off smoothly and those who were present enjoyed the afternoon. Oklahoma put it all over us "corn crackers," but we will be at St. Louis next November and expect to bring these cups back to "ole Kentucky."

(Signed) JAMES S. LUTZ, *Chairman.*

WOMEN PHYSICIANS OF THE SOUTHERN MEDICAL ASSOCIATION

Officers

Chairman—Dr. Nina Fay Calhoun, Dallas, Texas.
Vice-Chairman—Dr. Miriam M. Drane, Memphis, Tennessee.
Secretary—Dr. Laura M. Hobbs, Miami, Florida.

Thursday, November 14, 6:00 p. m.

The twenty-sixth annual meeting and dinner of Women Physicians of the Southern Medical Association was held at the Kentucky Hotel, Georgian Room, Louisville, Kentucky, Thursday, November 14, at 6:00 p. m.

Dr. Nora D. Dean, Louisville, Kentucky, Local Chairman for Women Physicians, welcomed the visiting women physicians and presented the Chairman, Dr. Nina Fay Calhoun, Dallas, Texas, who presided.

Mrs. Mary Breckinridge, Frontier Nursing Service, Wendover, Kentucky, was the principal speaker of the evening, her subject being "Frontier Nursing Service."

A floor show, the "Blue Danube," was presented by the Lilias E. Courtney School of Dancing, Louisville.

Another much enjoyed entertainment feature was the singing of familiar negro spirituals by an unusually good negro male chorus.

Open house was kept for visiting women physicians throughout the meeting in the Women Physicians' Lounge at the Kentucy Hotel, tea being served informally each afternoon from 3:00 to 5:00.

The following officers were elected for the ensuing year:

Chairman—Dr. Nora D. Dean, Louisville, Kentucky.
Vice-Chairman—Dr. Emma Moss, New Orleans, Louisiana.
Secretary—*Dr. Frances T. Brown, Indianapolis, Indiana.

There were forty-two women physicians present, representing ten states. Dr. Catherine Knop, London, England, was a guest.

*Memo from Association Office—Dr. Frances T. Brown is not a member of the Southern Medical Association and therefore is not eligible for the office to which she was elected. Dr. Brown is a member of the Indiana State Medical Association, physicians of Indiana not being eligible to membership in the Southern Medical Association.

CONFERENCE OF PRESIDENTS, PRESIDENTS-ELECT, SECRETARIES AND EDITORS

The Presidents, Presidents-Elect and Secretaries of state medical associations of the states comprising the Southern Medical Association and Editors of state medical journals in these states, together with a number of invited guests not represented in the above group, had a get-together meeting at Louisville, Kentucky, Tuesday, November 13, a dinner at 6:00 p. m. at the Pendennis Club. The Conference was similar to those held in Baltimore in

1936, New Orleans in 1937, Oklahoma City in 1938 and Memphis in 1939. The Conference is an independent group and has no connection with the Southern Medical Association, the Association meeting offering a convenient time and place to hold the Conference.

All the Presidents, Presidents-Elect, Secretaries and Editors in the states comprising the Southern Medical Association were invited to this get-together conference meeting, held for the purpose of exchanging ideas, for informal discussion of matters of mutual interest, and for the dissemination of information—a general round table session. Among the specially invited guests were members of the Council and other officers and past officers of the Southern Medical Association.

Dr. Harvey F. Garrison, Chairman of the Conference, Jackson, Mississippi, called the Conference to order and presided.

The following medical leaders addressed the Conference: Dr. Austin Bell, President, Kentucky State Medical Association, Hopkinsville, Kentucky; Dr. Arthur T. McCormack, President, Southern Medical Association, Louisville, Kentucky; Dr. Irvin Abell, Past President, Southern Medical Association and American Medical Association, Louisville, Kentucky; and Dr. Thomas Parran, Surgeon General, United States Public Health Service, Washington, D. C. A round table discussion was participated in by Dr. Harrison H. Shoulders, Speaker of the House of Delegates, American Medical Association, and Secretary-Editor, Tennessee State Medical Association, Nashville, Tennessee; Dr. E. L. Henderson, President-Elect, Kentucky State Medical Association, Louisville, Kentucky; Dr. Henry H. Turner, President, Oklahoma State Medical Association, Oklahoma City, Oklahoma; and Dr. W. H. Anderson, President, Mississippi State Medical Association, Booneville, Mississippi. The Conference closed with an address by Dr. Olin West, Secretary and General Manager, American Medical Association, Chicago, Illinois.

RADIO BROADCASTS

The four Radio Broadcasting Stations of Louisville cooperated with the Southern Medical Association in connection with the Louisville meeting and the Association was on the air for the following program:

Tuesday, November 12

Station W H A S, 9:20 p. m. (10 minutes). "Stomachache," J. M. T. Finney, Jr., Chairman, Section on Surgery, Southern Medical Association, Baltimore, Maryland.

Station W A V E, 2:15 p. m. (13 minutes), "When Your Child Is Sick, What?" Arthur T. McCormack, President, Southern Medical Association, and State Health Officer of Kentucky, Louisville, Kentucky.

Station W G R C, 4:30 p. m. (15 minutes), "Medical Aspects of Child Training," Horton Casparis, Member of Council, Southern Medical Association, and Professor of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tennessee.

Station W I N N, 3:05 p. m. (10 minutes). Medical Achievements," Walter E. Vest. Immediate Past President, Southern Medical Association, Huntington, West Virginia.

Wednesday, November 13

Station W A V E, 10:00 a. m. (13 minutes), "Cancer As It Particularly Effects Women," Lucien A. LeDoux, Councilor of Southern Medical Association, and Associate Professor of Gynecology, Louisiana State University Graduate School of Medicine, New Orleans, Louisiana.

Station W G R C, 2:15 p. m. (15 minutes), "An American Health Program," Nathan B. Van Etten, President, American Medical Association, New York, New York.

Station W I N N, 3:05 p. m. (10 minutes), "Budgeting Hospital Bills," C. Rufus Rorem, Director, Commission on Hospital Service, American Hospital Association, Chicago, Illinois.

Thursday, November 14

Station W H A S, 9:45 p. m. (10 minutes), "Early Diagnosis of Cancer," M. Y. Dabney, Editor, Southern Medical Journal, Birmingham, Alabama.

Station W A V E, 2:15 p. m. (13 minutes), "X-Ray in Present

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REGISTRATION

Louisville Meeting, Southern Medical Association, November 12-15, 1940

	Number Physicians	Number Ladies Accompanying Physicians
Alabama	101	27
Arkansas	40	21
District of Columbia	43	8
Florida	35	14
Georgia	79	19
Kentucky (outside Louisville)	317	91
Louisville	436	—
Louisiana	58	15
Maryland	37	10
Mississippi	47	25
Missouri	101	47
North Carolina	48	10
Oklahoma	58	32
South Carolina	41	10
Tennessee	142	37
Texas	83	40
Virginia	57	18
West Virginia	50	17
Total	1773	441
Indiana	100	33
Illinois	41	10
Ohio	72	31
Other States and Foreign	89	17
Total Physicians	2075	532
Sanitary Engineers and Sanitation Officers—Ky. and Other States	41	3
Sanitary Engineers and Sanitation Officers—Louisville	7	
Public Health Nurses—Ky. and Other States	44	
Public Health Nurses—Louisville	37	
Others from Health Departments—Ky. and Other States	7	
Others from Health Departments—Louisville	65	
Nurses (not Public Health)—Ky. and Other States	19	
Nurses (not Public Health)—Louisville	348	
Technicians—Ky. and Other States	22	
Technicians—Louisville	77	
Students—Medicine, Pharmacy and Dentistry—Louisville	412	
Miscellaneous—Ky. and Other States	23	
Miscellaneous—Louisville	71	
With Technical Exhibits	361	
	3609	535
Ladies	535	
Grand Total	4144	

These figures are compiled from the card registration. There are always a number of physicians attending who neglect to register. The number attending who fail to register is estimated at from 3 to 10 per cent of the total registration. It is believed that at least 3 per cent (probably more) of the physicians who attended the Louisville meeting failed to register, and if this is true, an additional 62 physicians should be added to the 2,075 who did register, making the actual attendance apparently at least 2,137 physicians, with a grand total of 4,206.

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Day Medicine," Vincent W. Archer, Chairman of Council, Southern Medical Association, and Professor of Roentgenology, University of Virginia School of Medicine, Charlottesville, Virginia.

Station W G R C, 4:00 p. m. (15 minutes), "What Can You Expect from Your Physician in the Diagnosis and Management of Tuberculosis?" Paul H. Ringer, Past President, Southern Tuberculosis Conference, and Past President, North Carolina State Medical Association, Asheville, North Carolina.

Station W I N N, 3:05 p. m. (10 minutes), "Pellagra," Seale Harris, Past President, Southern Medical Association, Birmingham, Alabama.

MOTION PICTURES

As part of the Louisville meeting there were motion pictures at the Armory, Room No. 5 and Room No. 6, running continuously Wednesday and Thursday, November 13 and 14, from 8:30 a. m. until 6:00 p. m.

Three times each day at specified times there was a request period, at which time any film on the regular program or any film approved by the management could be run, provided it did not interfere with the regular program. At each request period films on the regular program and films not on the regular program were run.

The films on the regular program in Room No. 5, which ran twice each day at specified times, were:

"Choose to Live" (20 minutes), United States Public Health Service, National Cancer Institute, Washington, D. C.

"Refinements in the Technic of the Radical Mastoid Operation and Original Flap" (15 minutes), Louis Daily, Houston, Tex.

"Ophthalmic Operations" (15 minutes), Ray K. Daily, Houston, Tex.

"Experimental Studies on Inflammation" (20 minutes), R. H. Rigdon, University of Tennessee College of Medicine, Memphis, Tennessee.

"Treatment of Pellagra with Nicotinic Acid and Related Compounds" (15 minutes), Julian M. Ruffin and David T. Smith, Duke University School of Medicine, Durham, N. C.

"Education of Diabetic Patients" (15 minutes), Louis I. Dublin and Herbert H. Marks, Metropolitan Life Insurance Company, New York, N. Y.; and Elliott P. Joslin, Howard F. Root, Priscilla White and Alexander Marble, George F. Baker Clinic, New England Deaconess Hospital, Boston, Mass.

"Operative Repair of Vesicovaginal Fistula" (10 minutes), Erasmus H. Kloman, Baltimore, Md.

"The Construction of an Artificial Vagina" (10 minutes), Buford Word, Birmingham, Ala.

"Complete Reconstruction of the Vagina" (15 minutes), Wm. Milton Adams, University of Tennessee College of Medicine, Memphis, Tenn.

"Anorectal Operative Procedures" (20 minutes), Harry E. Bacon, Temple University School of Medicine; and Graduate School, University of Pennsylvania School of Medicine, Philadelphia, Pa.

"Functional Treatment of Fractures" (20 minutes), R. Arnold Griswold, University of Louisville School of Medicine, Louisville, Kentucky.

"Refinements in Technic Imperative for Successful Transurethral Prostatectomy" (15 minutes), Otto J. Wilhelmi, St. Louis, Mo.

The films on the regular program in Room No. 6, which ran twice each day at specified times, were:

"Three Counties Against Syphilis" (20 minutes), United States Public Health Service, Venereal Disease Division, Washington, D. C.

"Diagnosis and Management of Cutaneous Blastomycosis" (20 minutes), J. Lamar Callaway and Normal F. Conant (Ph.D.), Duke University School of Medicine, Durham, N. C.

"Application of Thick Split Skin Grafts" (25 minutes), James Barrett Brown and Frank McDowell, Washington University School of Medicine, St. Louis, Mo.

"Diagnosis and Treatment of Peripheral Vascular Conditions" (20 minutes), D. Henry Poer, Atlanta, Ga.

"Peritoneoscopy" (6 minutes), Joseph E. Hamilton, University of Louisville School of Medicine, Louisville, Ky.

"Treatment of Cancer of the Breast with the Cautery Technic" (20 minutes), Hugh A. Gamble, Greenville, Miss.

"Technic of Total Abdominal Hysterectomy" (20 minutes), John Roberts Phillips, Houston, Tex.

"Sterility in Humans: Its Causes and Treatment" (22 minutes), Karl John Karnaky, Houston, Tex.

"Apparatus for Administering Intravenous Anesthetic Agents" (8 minutes), Fred F. Rudder, Atlanta, Ga.

"Treatment of Idiopathic Sciatica by Epidural Injection" (20 minutes), Chas. B. Odom and M. C. Kolczun, Louisiana State University School of Medicine, New Orleans, La.

"When Bobby Goes to School" (25 minutes), American Academy of Pediatrics, Chicago, Ill.

HOBBY EXHIBITS

The Association had its first Hobby Exhibit in connection with the Louisville meeting. Here are names of the physicians who exhibited some of their hobby work:

Dr. VICTOR ALFARO, Washington, D. C.: Paintings in Oil.

Dr. B. F. AYDELOTTE, Louisville, Ky.: Pen and Ink Drawings and Antique Glass.

Dr. ELIZABETH BASS, New Orleans, La.: Books by and about Medical Women.

Dr. R. ALEXANDER BATE, SR., Louisville, Ky.: Geological and Semiprecious Stone Collection.

Dr. J. A. BISHOP, Jeffersontown, Ky.: Butterfly Collection of Kentucky.

Dr. IRVING BROTMAN, Washington, D. C.: Photographs.

Dr. W. O. BULLOCK, Lexington, Ky.: Sculpture.

Dr. MISCH CASPER, Louisville, Ky.: Poems and Fox Hunt Trophy.

Dr. JOSEPH D. CIERI, St. Louis, Mo.: Wood Carving.

Dr. R. HAYES DAVIS, Louisville, Ky.: Photographs.

Dr. NORA DEAN, Louisville, Ky.: Paintings in Oil.

Dr. ETHEL C. DUNHAM, Washington, D. C.: Paintings in Water Color.

Dr. G. L. DYER, Buechel, Ky.: Gun Collection.

Dr. LUCIEN Y. DYRENFORTH, Jacksonville, Fla.: Autolicense Plates.

Dr. HIRAM S. EGGERS, Louisville, Ky.: Mounted Fish.

Dr. HENRY FARBACH (deceased), Louisville, Ky.: Arrowhead Collection.

Dr. JAMES O. FITZGERALD, JR., Richmond, Va.: Photographs.

Dr. LESLIE H. FRENCH, Washington, D. C.: Photographs.

Dr. ROBERT J. GRIFFIN, Lexington, Ky.: Photographs.

Dr. BEN H. HOLLIS, Louisville, Ky.: Mounted Fish.

Dr. EMMET F. HORINE, Louisville, Ky.: Historical Medical Literature.

JEFFERSON COUNTY MEDICAL SOCIETY, Louisville, Ky.: Old Instruments Used in Early Medical Practice in Kentucky.

Dr. SYDNEY E. JOHNSON, Louisville, Ky.: Photographs.

Dr. W. O. JOHNSON, Louisville, Ky.: Charcoal Drawing.

Dr. IRVING F. KANNER, Lexington, Ky.: Photographs.

Dr. CHARLES N. KAVANAUGH, Lexington, Ky.: Photographs.

Dr. A. F. KNOEFEL, Louisville, Ky.: Photographs.

Dr. H. L. D. KIRKHAM, Houston, Tex.: Paintings in Oil.

Dr. L. A. de TOLENDAL LALLY, Baltimore, Md.: Paintings in Oil.

Dr. JESSHILL LOVE, Louisville, Ky.: Photographs and Pastels.

Dr. H. C. MACATEE, Washington, D. C.: Paintings in Oil.

Dr. SHELTON H. MANN, Louisville, Ky.: Lipstick Drawing.

Dr. J. M. MARTIN, Dallas, Tex.: Photographs.

Dr. LOUIS NAGEL, Louisville, Ky.: Pencil Drawings.

Dr. GEORGE H. NOBLE, JR., Atlanta, Ga.: Sculpture.

Dr. KENNETH C. REISING, Louisville, Ky.: Mounted Fish.

Dr. R. DOUGLAS SANDERS, Louisville, Ky.: Photographs.

Dr. FREDERICK O. SCHWARTZ, St. Louis, Mo.: Paintings in Oil.

Dr. A. THORNTON SCOTT, Lexington, Ky.: Photographs.

Dr. LLOYD M. SOUTHWICK, Edinburg, Tex.: Photographs.

Dr. FRANCIS G. SPEIDEL, Washington, D. C.: Cartoons.

Dr. R. GLEN SPURLING, Louisville, Ky.: Photographs.

Dr. CARROL C. TURNER, Memphis, Tenn.: Photographs.

Dr. PAUL A. TURNER, Louisville, Ky.: Photographs.

Dr. F. W. URTON, Louisville, Ky.: Gun Collection.

Dr. EUGENE R. WHITMORE, Washington, D. C.: Photographs.

Dr. J. G. WILSON, Frankfort, Ky.: Paintings in Oil.

Dr. JAMES E. WINTER, Louisville, Ky.: Stamp Collection.

SCIENTIFIC AND TECHNICAL EXHIBITS

The Scientific and Technical Exhibits in connection with the thirty-fourth annual meeting of the Southern Medical Association were all placed on the ground floor of the Jefferson County Armory, Louisville, Kentucky, and were open on Tuesday, Wednesday and Thursday, November 12-13-14, from 8:00 a. m. to 6:00 p. m., and on Friday, November 15, from 8:00 a. m. to 1:00 p. m.

There were ninety-four (94) Scientific Exhibits, representing all phases of medicine and surgery, many of them being original research work. The Scientific Exhibits were conveniently placed and arranged so they could be easily seen and studied. See pages 113-115 for complete list of Scientific Exhibits and page 134 for the exhibit diagram.

In the Technical Exhibits there were eighty-eight (88) business firms with a total of one hundred and fifty (150) exhibit spaces. See pages 133-134 for complete list of business firms and exhibit diagram.

SCIENTIFIC EXHIBITS

The following were the Scientific Exhibits at the Louisville meeting:

Space No.

Public Health

1. UNITED STATES PUBLIC HEALTH SERVICE HOSPITAL, Lexington, Ky.: Treatment and Study of Drug Addiction.

2. KENTUCKY STATE DEPARTMENT OF HEALTH, Louisville, Ky.: Activities of the Laboratory, Social Hygiene, Epidemiology and Public Health Education Divisions.

3. JEFFERSON COUNTY HEALTH DEPARTMENT, Louisville, Ky.: Activities of the County Health Department.

4. LOUISVILLE HEALTH DEPARTMENT, Louisville, Ky.: Activities of the Louisville Health Department.

5. VIRGINIA STATE DEPARTMENT OF HEALTH, Richmond, Va.: Activities of the Virginia State Department of Health.

6. Dr. W. H. WRIGHT, National Institute of Health, Washington, D. C.: The Public Health Aspects of Trichinosis.

Space No.

Obstetrics

7. MISSOURI STATE HEALTH DEPARTMENT, Jefferson City, Mo.: Maternal Care.

8. AMERICAN COMMITTEE ON MATERNAL WELFARE, INC., Chicago, Ill.: Educational Material Dealing with Maternal Welfare.

9. VISITING NURSE ASSOCIATION, Louisville, Ky.: Practical Set-up for a Home Delivery.

Gynecology

10. Dr. B. T. BEASLEY, Atlanta, Ga.: Pelvic Mechanics; Intravaginal Pressure and Heat Therapy in the Treatment of Retrodisplacements and Moderate Genital Prolapse.

11. Dr. J. K. DONALDSON, Dr. JOE H. SANDERLIN and Dr. WILLIAM B. HARRELL, JR., University of Arkansas School of Medicine, Little Rock, Ark.: New Method of Suspending Uterus (Without Abdominal Incision, by Use of Peritoneoscope).

12. Dr. JOSEPH W. KELSO, University of Oklahoma School of Medicine, Oklahoma City, Okla.: Analysis of One Thousand Hysterectomies.

13. Dr. BUFORD WORD, Birmingham, Ala.: Construction of an Artificial Vagina. (As program went to press the exhibit was withdrawn, Dr. Word being called to military service.)

14. Dr. ROBERT B. GREENBLATT and Dr. RICHARD TORPIN, University of Georgia School of Medicine, Augusta, Ga.: Clinical and Experimental Evaluation of the Gonadotropic Hormones.

Physiology

15. Dr. HAMPDEN C. LAWSON, University of Louisville School of Medicine, Louisville, Ky.: Effect of Distention on Blood Flow Through the Intestine.

Pathology

16. Dr. A. J. MILLER, University of Louisville School of Medicine, Louisville, Ky.: Brain Tumors.

Laboratory

17. Dr. R. B. H. GRADWOHL, St. Louis, Mo., and A. A. KRAJIAN, Los Angeles, Calif.: Histopathological Technic.

Pediatrics

18. CHILDREN'S BUREAU, U. S. Department of Labor, Washington, D. C.: (1) Osseous Development of Infants; and (2) Causes of Neonatal and Infant Mortality.

19. Dr. JAMES W. BRUCE, Dr. LEE PALMER, Dr. W. W. NICHOLSON, Dr. MARGARET LIMPER and Dr. J. KELLER MACK, University of Louisville School of Medicine, Louisville, Ky.: Interesting X-Rays in Pediatrics.

Tuberculosis

20. Dr. MAX L. GARON and Dr. MARTIN J. HARRIS, Louisville, Ky.: Prognosis in Childhood Tuberculosis.

21. Dr. BENJAMIN L. BROCK and Dr. LAWRENCE W. NEHIL, Waverly Hills Sanatorium, Louisville, Ky.: Results of Surgery in Pulmonary Tuberculosis.

Venereal Diseases

22. UNITED STATES PUBLIC HEALTH SERVICE, Venereal Disease Division, Washington, D. C.: Gonorrhea in the Male: Results of Treatment with Sulfanilamide.

23. AMERICAN SOCIAL HYGIENE ASSOCIATION, New York, N. Y.: Diagnosis, Treatment and Control of Gonococcal Infections.

24. Dr. ROBERT BRANDT, Dr. RICHARD TORPIN, Dr. E. S. SANDERSON and Dr. ROBERT B. GREENBLATT, University of Georgia School of Medicine, Augusta, Ga.: Treatment of the Newer Venereal Diseases.

25. Dr. ONIS GEORGE HAZEL and Dr. C. R. ROUNTREE, University of Oklahoma School of Medicine, Oklahoma City, Okla.: Syphilis of the Skeletal System.

Space No.

Radiology

26. Dr. DAVID Y. KEITH, Dr. JOHN PAUL KEITH and Dr. E. LEE SHIFLETT, Louisville, Ky.: (1) Body Sectioning by X-Ray, and (2) Radiotherapy in Resistant Carcinoma.

27. Dr. JESSHILL LOVE, St. Joseph Infirmary, Louisville, Ky.: Direct X-Ray Therapy.

28. Dr. SYDNEY E. JOHNSON, University of Louisville School of Medicine, Louisville, Ky.: (1) Constrictive Adhesive Pericarditis, and (2) Fibrocystic Disease (Parathyroid), with Results of Parathyroidectomy.

29. Dr. LOUIS H. JORSTAD and Dr. BRUCE C. MARTIN, St. Louis, Mo.: Diagnosis and Treatment of Benign and Malignant Tumors of the Head and Neck.

30. Dr. WILLIAM J. MARTIN, JR., Dr. JOSEPH C. BELL and Dr. PAT R. IMES, Norton Memorial Infirmary, Louisville, Ky.: Polypoid Lesions of the Large Bowel.

Proctology

31. Dr. HARRY E. BACON, Temple University School of Medicine; and Graduate School, University of Pennsylvania School of Medicine, Philadelphia, Pa.: Anorectal Operative Procedures with Reference to the Avoidance of Pain.

Gastroenterology

32. Dr. A. L. LEVIN (deceased), Dr. MORRIS SHUSHAN and (Mr.) WM. BRANKS STEWART, Louisiana State University School of Medicine, New Orleans, La.: Present Status of Gastroscopy.

Dermatology

33. Dr. E. E. BARKSDALE, Danville, Va., and Dr. DUDLEY C. SMITH, University of Virginia School of Medicine, Charlottesville, Va.: Sources of Arsenic in Dermatitis, with Special Reference to Tobacco.

34. Dr. H. M. ROBINSON, Dr. JOSEPH C. BERNSTEIN and Dr. H. M. ROBINSON, JR., University of Maryland School of Medicine, Baltimore, Md.: Tuberculosis of the Skin.

35. Dr. JACK W. JONES and Dr. HERBERT S. ALDEN, Emory University School of Medicine, Atlanta, Ga.: Skin Diseases of the Mouth.

36. Dr. PAUL MAPOTHER, Louisville, Ky., and F. F. DINSMORE (B.S.), Boston, Mass.: Types of Hutchinson's Teeth.

37. Dr. ADOLPH B. LOVEMAN, Louisville, Ky.: Color Photography in Dermatology and Syphilology.

38. Dr. HOWARD HAILEY and Dr. HUGH HAILEY, Emory University School of Medicine, Atlanta, Ga.: (1) Pruritus Ani et Vulvae (Eczema); (2) Lesions of the Lip and Oral Cavity; and (3) Syphilis.

39. Dr. LOUIS SCHWARTZ and Dr. LEON HUGH WARREN, U. S. Public Health Service, Washington, D. C.: Industrial Dermatoses.

40. Dr. J. M. HITCH, Raleigh, N. C., and Dr. N. F. CONANT (Ph.D.), Duke University School of Medicine, Durham, N. C.: Fungous Infections of the Skin and Mucous Membranes Occurring in North Carolina.

Medicine

41. Dr. JOHN WALKER MOORE and Dr. J. MURRAY KINSMAN, University of Louisville School of Medicine, Louisville, Ky.: (1) Absorption and Excretion of Sulfapyridine and Sulfathiazole; and (2) The Dye-Injection Method of Studying the Circulation.

42. Dr. R. J. REEVES and Dr. W. S. WALLACE, Duke University School of Medicine, Durham, N. C.: Bronchomycosis.

43. Dr. LOUIS I. DUBLIN and HERBERT H. MARKS, Metropolitan Life Insurance Company, New York, N. Y., and Dr. ELLIOTT P. JOSLIN, Dr. HOWARD F. ROOT, Dr. PRISCILLA WHITE and Dr. ALEXANDER MARBLE, George F. Baker Clinic, New England Deaconess Hospital, Boston, Mass.: Diabetes in the 1940's.

Space No.

44. Dr. V. P. SYDENSTRICKER, University of Georgia School of Medicine, Augusta, Ga.: Common Vitamin Deficiencies.

45. Dr. SEALE HARRIS, Birmingham, Ala.: (1) Genesis of Pellagra, (2) Pellagra, Pernicious Anemia and Sprue, and (3) Dietary Management of Pellagra.

46. Dr. R. O. MUETHER, St. Louis University School of Medicine, St. Louis, Mo., and Dr. R. K. ANDREWS, Lexington, Ky.: Studies on Stored Blood.

47. Dr. CHARLES STANLEY WHITE, Dr. J. LLOYD COLLINS and Dr. J. WEINSTEIN, George Washington University School of Medicine, Washington, D. C.: Transfusions with Preserved Blood and Plasma: Clinical Results.

48. Dr. J. D. ALLEN and Dr. MARION BEARD, Kentucky Baptist Hospital, Louisville, Ky.: Bone Marrow Studies in Diseases of the Blood and Lymphatics.

49. Dr. HENRY G. HADLEY, Washington, D. C.: Effect of Tobacco on Longevity, Circulatory System, Height, Weight and Metabolism.

50. Dr. OLIVER ABEL, JR., and Dr. WALTER J. SIEBERT, St. Louis, Mo.: Fibrositis.

Cardiovascular Disease

51. Dr. GRAHAM ASHER, University of Kansas School of Medicine, Kansas City, Kan., and Dr. FRANK E. HOECKER (Ph.D.), University of Kansas City, Kansas City, Mo.: Surface Potentials During Cardiac Systole.

52. Dr. C. E. SANDERS, Kansas City, Mo.: Effects of Gravity on the Human Body; Demonstration of the Vasoscillator and Intermittent Venous Occlusion.

53. Dr. MORRIS M. WEISS, Louisville, Ky.: Heart Rate During Sleep, Normal and Diseased States.

54. AMERICAN HEART ASSOCIATION, New York, N. Y.: Educational Material.

Allergy

55. Dr. FRANK A. SIMON, University of Louisville School of Medicine, Louisville, Ky.: Allergy.

56. Dr. FRENCH K. HANSEL, St. Louis, Mo.: Hay Fever: Botanical and Clinical Aspects.

57. Dr. W. AMBROSE McGEE, Richmond, Va.: Childhood Allergic Problems.

Endocrinology

58. Dr. HENRY H. TURNER, University of Oklahoma School of Medicine, Oklahoma City, Okla.: Clinical Endocrinology.

59. Dr. AUGUST A. WERNER, St. Louis University School of Medicine, St. Louis, Mo.: Clinical Endocrinology.

Pharmacology

60. Dr. PETER K. KNOEFEL, University of Louisville School of Medicine, Louisville, Ky.: Current Trend in Pharmacology and the Pharmacopeia.

61. KENTUCKY PHARMACEUTICAL ASSOCIATION, Interprofessional Relations Committee, John G. Krul, Chairman, Louisville, Ky.: Official Medicines.

Neurology and Psychiatry

62. COMMONWEALTH OF KENTUCKY, Department of Welfare, Dr. J. G. Wilson, Director, Division of Hospitals and Mental Hygiene, Frankfort, Ky.: Organization and Therapy in Kentucky State Hospitals.

63. SHEPPARD AND ENOCH PRATT HOSPITAL, Occupational Therapy Department, Towson, Md.: Occupational Therapy Activities at a Psychiatric Hospital.

64. Dr. ROBERT V. SELIGER, Johns Hopkins University School of Medicine, Baltimore, Md.: Chronic Alcoholism: Psychiatric Approach.

Space No.

65. Dr. WILLIAM K. KELLER, University of Louisville School of Medicine, Louisville, Ky., and Dr. LOUIS M. FOLTZ, Central State Hospital, Lakeland, Ky.: Bromide Intoxication.

Neurological Surgery

66. Dr. R. GLEN SPURLING and Dr. EVERETT G. GRANTHAM, University of Louisville School of Medicine, Louisville, Ky.: Ruptured Intervertebral Disks in the Lower Lumbar Region.

67. Dr. EXUM WALKER, Emory University School of Medicine, Atlanta, Ga.: Relief of Pain by Neurosurgical Methods.

Surgery

68. Dr. ALTON OCHSNER, Tulane University School of Medicine, New Orleans, La., and Dr. WOOLFOLK BARROW, Lexington, Ky.: Treatment of Appendiceal Peritonitis.

69. Dr. ARCH E. COLE, University of Louisville School of Medicine, Louisville, Ky.: A Working Model to Demonstrate the Anatomical Relationship of Inguinal Herniae.

70. Dr. JOSEPH E. HAMILTON, University of Louisville School of Medicine, Louisville, Ky.: Newer Applications of Peritoneoscopy.

71. Dr. J. GARLAND SHERRILL, University of Louisville School of Medicine, Louisville, Ky.: Surgery Through Three Decades.

72. Dr. W. B. ATKINSON, Campbellsville, Ky.: Improvised Apparatus.

Plastic Surgery

73. Dr. WM. MILTON ADAMS, University of Tennessee College of Medicine, Memphis, Tenn.: Plastic Surgery.

74. Dr. NEAL OWENS and Dr. RICHARD VINCENT, Tulane University School of Medicine, New Orleans, La.: Plastic Surgery.

75. Dr. CURT VON WEDEL and Dr. STEPHEN S. ELLIS, Oklahoma City, Okla.: Plastic Surgery.

Fractures

76. Dr. R. ARNOLD GRISWOLD, Dr. ERNEST C. STRODE and Dr. DENMAN C. HUCHERSON, University of Louisville School of Medicine, Louisville, Ky.: Fractures of the Humerus.

77. Dr. CHARLES S. VENABLE and Dr. WALTER G. STUCK, San Antonio, Tex.: Use of Vitallfum Appliances in Fractures.

Orthopedic Surgery

78. Dr. HERBERT E. HIPPS, Marlin, Tex.: Muscle Pathology in Anterior Poliomyelitis.

79. Dr. WILLIS C. CAMPBELL and Dr. HUGH SMITH, Memphis, Tenn.: Coxa Plana.

Cancer

80. WOMAN'S FIELD ARMY, Kentucky Division, American Society for the Control of Cancer, Louisville, Ky.: Cancer Control.

81. AMERICAN COLLEGE OF SURGEONS, Chicago, Ill.: Cancer Record Forms.

82. Dr. L. WALLACE FRANK, Norton Memorial Infirmary, Louisville, Ky.: Gastro-Intestinal Malignancies.

83. Dr. EDWARD M. LIVINGSTON, New York University College of Medicine, and Dr. GEORGE T. PACK, Cornell University College of Medicine, New York, N. Y.: Endogastric Applicators in the Treatment of Cancer of the Stomach.

84. Dr. FRED HAMES, Pine Bluff, Ark.: Moulages of Malignant and Other Lesions.

Urology

85. Dr. LYTLE ATHERTON and Dr. W. CURRY MARTIN, Louisville, Ky.: Renal Tumors.

86. Dr. OWSLEY GRANT and Dr. ROBERT LICH, JR., University of Louisville School of Medicine, Louisville, Ky.: Aids in Renal Diagnosis.

Space No.

87. Dr. W. CALHOUN STIRLING and Col. J. E. ASH, Washington, D. C.: Cystic Lesions of the Urinary Tract.

Specialties

88. ADVISORY BOARD FOR MEDICAL SPECIALTIES, Dr. Paul Titus, Secretary, Pittsburgh, Pa.: Work of the Advisory Board for Medical Specialties.

89. AMERICAN ASSOCIATION OF MEDICAL SOCIAL WORKERS, Chicago, Ill.: Medical Social Work.

90. REGISTRY OF MEDICAL TECHNOLOGISTS, American Society of Clinical Pathologists, Denver, Col.: Registration of Medical Technologists.

91. SOUTHERN SOCIETIES OF MEDICAL TECHNOLOGISTS, Louisville, Ky.: Medical Technologists, Their Organizations, Educational Requirements, Aims, Ideals, Etc.

92. Dr. FRED F. RUDDER, Atlanta, Ga.: Apparatus for Administering Intravenous Anesthetic Agents; Pentothal Sodium.

93. Dr. CHAS. B. ODOM and Dr. M. C. KOLCZUN, Louisiana State Universlty School of Medicine, New Orleans, La.: Treatment of Idiopathic Sciatica by Epidural Injection.

Ophthalmology and Ololaryngology

94. Dr. HARVEY B. SEARCY, Tuscaloosa, Ala.: Original Office Accessories.

95. Dr. PAUL L. DAY, Dr. WILLIAM J. DARBY and Dr. K. W. COSGROVE, University of Arkansas School of Medicine, Little Rock, Ark.: Xylose and Galactose Cataract.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 10:00 a. m.

A Clinical Session, MEDICINE—Section A, was held at the Armory, Room No. 2, Louisville, Dr. Gavin Fulton and Dr. W. E. Gardner, Louisville, presiding.

The following presentations were made:

GENERAL MEDICINE

Dr. Frederick Speidel, Louisville: "Nephritis."

Dr. Charles E. Gaupin, Louisville: "Acute Suppression of Urine Occurring Late in Pregnancy and Following Labor."

Dr. E. L. Shiflett, Louisville: "Intravenous Urography in Diagnosis of Urinary Tract Disease."

Dr. R. R. Elmore, Louisville: "Suggestions in Geriatrics" (Lantern Slides).

Dr. William K. Keller, Louisville: "Routine Blood and Spinal Fluid Bromide Determinations on a Psychiatric Service."

Dr. A. Clayton McCarty, Louisville: "The Use of Gold in Treatment of Arthritis."

Dr. David E. Jones, Louisville: "An Evaluation of Fever Therapy."

Dr. David Y. Keith, Louisville: "X-Ray Therapy in Infections" (Lantern Slides).

Dr. J. T. O'Rourke (D.D.S.), Louisville: "General Dental Caries and Nutrition."

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 10:00 a. m.

A Clinical Session, MEDICINE—Section B, was held at the Armory, Room No. 4, Louisville, Dr. Philip F. Barbour and Dr. L. P. Spears, Louisville, presiding.

The following presentations were made:

PEDIATRICS

Dr. James W. Bruce, Louisville: "Intracranial Hemorrhage of Newborn."

Dr. James H. Pritchett, Louisville: "Present Status of Immunization in Childhood."

Dr. Max L. Garon and Dr. M. J. Harris, Louisville: "The Prognosis in Childhood Tuberculosis" (Lantern Slides).

Dr. J. Sam Bumgardner, Louisville: "Acute Laryngotracheobronchitis" (Lantern Slides).

Dr. W. W. Nicholson, Louisville: "Acute Rheumatic Fever."

Dr. Lee Palmer, Louisville: "Allergy in Childhood."

Dr. Harry S. Andrews, Louisville: "The Premature in the Private Hospital." (On account of illness Dr. Andrews' paper was read by the Chairman, Dr. Barbour.)

Dr. Owen S. Ogden, Louisville: "Child Feeding in Low Income Groups."

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 2:00 p. m.

A Clinical Session, MEDICINE—Section A, was held at the Armory, Room No. 2, Louisville, Dr. E. Lee Heflin, Louisville, presiding.

The following presentations were made:

GENERAL MEDICINE

Dr. Frank Simon, Louisville: "Practical Aspects of Allergic Diagnosis."

Dr. A. W. Homberger, Louisville: "Vitamins" (Lantern Slides).

Dr. Morris Thompson, Louisville: "Hypoglycemia and Hyperinsulinism."

Dr. R. Glen Spurling, Louisville: "Epilepsy: A Neurological Problem."

Dr. Harry M. Weeter, Louisville: "Pathology of One Thousand Consecutive Appendices."

Dr. H. Arch Herzer, Louisville: "Management of Pneumonia in the Home."

Dr. J. Murray Kinsman, Louisville: "Comparative Effects of Sulfapyridine and Sulfathiazole in the Treatment of Lobar Pneumonia" (Lantern Slides).

Dr. Harry S. Frazier, Louisville: "Acute Bacterial Endocarditis: A Study" (Lantern Slides).

Dr. R. Hayes Davis, Louisville: "The Nervous Patient."

Dr. Morris Flexner, Louisville: "Medical Treatment of Hypertension" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 2:00 p. m.

A Clinical Session, MEDICINE—Section B, was held at the Armory, Room No. 4, Louisville, Dr. John Walker Moore and Dr. Virgil E. Simpson, Louisville, presiding.

The following presentations were made:

GENERAL MEDICINE

Dr. Benjamin L. Brock, Louisville: "The Pathogenesis and Localization of Pulmonary Tuberculosis."

Dr. Maurice G. Buckles, Louisville: "Diagnostic Use of the Bronchoscope" (Lantern Slides).

Dr. Oscar O. Miller, Louisville: "Non-Tuberculous Pulmonary Infiltrations" (Lantern Slides).

Dr. William Curry Martin, Louisville: "X-Ray Diagnosis of Obstructive Lesions of the Bronchi."

Dr. E. R. Gernert, Louisville: "Spontaneous Pneumothorax."

Dr. Paul A. Turner, Louisville: "Modern Methods in the Treatment of Pulmonary Tuberculosis" (Lantern Slides).

Dr. Lawrence W. Nehil, Louisville: "Surgical Treatment in Pulmonary Tuberculosis."

Dr. Hugh R. Leavell, Louisville: "Ohio River Pollution" (Lantern Slides).

Dr. Winston U. Rutledge, Louisville: "Practical Considerations in the Diagnosis and Treatment of Syphilis."

Dr. Adolph B. Loveman, Louisville: "Cutaneous Manifestations of Systemic Diseases" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 10:00 a. m.

A Clinical Session, SURGERY—Section A, was held at the Armory, Room No. 1, Louisville, Dr. J. Garland Sherrill and Dr. Granville S. Hanes, Louisville, presiding.

The following presentations were made:

GENERAL SURGERY

Dr. J. Duffy Hancock, Louisville: "Pyelphlebitis" (Lantern Slides).

Dr. Walter I. Hume, Louisville: "Vitamin K in Surgery."

Dr. Franklin Jelsma, Louisville: "The Scalenus Anticus Syndrome" (Lantern Slides).

Dr. E. S. Allen, Sr., Louisville: "Use of the Miller Abbott Tube in Intestinal Obstruction."

Dr. Joseph E. Hamilton, Louisville: "Modern Treatment of Burns" (Lantern Slides).

Dr. Wm. Edgar Fallis, Louisville: "Appendicitis in Children: An Analysis of the Symptoms in a Series of Cases."

Dr. William M. McClarin, Louisville: "Relation of Trauma to Inguinal Hernia."

Dr. W. Barnett Owen, Louisville: "Hematogenous Osteomyelitis" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 2:00 p. m.

A Clinical Session, SURGERY—Section A, was held at the Armory, Room No. 1, Louisville, Dr. J. B. Lukins, Louisville, presiding.

The following presentations were made:

GENERAL SURGERY

Dr. William J. Martin, Jr., Louisville: "Polypoid Lesions of the Rectum and Colon" (Lantern Slides).

Dr. Joseph C. Bell, Louisville: "The Roentgen Ray Diagnosis of Polypoid Lesions of the Large Bowel" (Lantern Slides).

Dr. Pat R. Imes, Louisville: "The Early Diagnosis of Carcinoma of the Colon."

Dr. Malcom Thompson, Louisville: "Indications for Surgery of the Thyroid Gland."

Dr. D. P. Hall, Louisville: "The Spleen: A Surgical Consideration" (Lantern Slides).

Dr. Emmet F. Horine, Louisville: "Differential Diagnosis of Acute Abdominal Conditions and Coronary Disease."

Dr. H. H. Hagan, Louisville: "Principles of Peritoneal Drainage."

Dr. L. Wallace Frank, Louisville: "A Surgeon's View of the Treatment of Breast Cancer" (Lantern Slides and Motion Pictures).

Dr. Guy Aud, Louisville: "Mortality of Appendicitis in Louisville."

Dr. Irvin Abell, Louisville: "The Present Status of Gastrectomy in the Treatment of Gastric and Duodenal Ulcer."

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 2:00 p. m.

A Clinical Session, SURGERY—Section B, was held at the Armory, Room No. 3, Louisville, Dr. E. L. Henderson and Dr. M. J. Henry, Louisville, presiding.

The following presentations were made:

ORTHOPEDICS AND UROLOGY

Dr. Robert Lich, Jr., Louisville: "The Symptomatic Treatment of Acute Epididymitis."

Dr. Lytle Atherton, Louisville: "The Treatment of Impotence with Reference to Glandular Therapy."

Dr. I. A. Arnold, Louisville: "Early Management of Compound Fractures."

Dr. R. Arnold Griswold, Louisville: "Treatment of Fractures of the Humerus with the Hanging Cast" (Lantern Slides).

Dr. Owsley Grant, Louisville: "Prostatic Obstruction: Appropriate Operative Procedure."

Dr. J. A. Bowen and Dr. James Stites, Louisville: "Ureteral and Kidney Changes in Pregnancy with Their Sequelae" (Lantern Slides).

Dr. R. O. Joplin, Louisville: "Fractures of Both Bones of the Forearm" (Lantern Slides).

Dr. A. M. McKeithen, Louisville: "Management of Traumatic Wounds."

Dr. Richard T. Hudson, Louisville: "The Present Status of Treatment of Fractures of the Hip" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 2:00 p. m.

A Clinical Session, GYNECOLOGY AND OBSTETRICS, was held at the Kentucky Hotel, Georgian Room, Louisville, Dr. Charles W. Hibbitt and Dr. Edward Speidel, Louisville, presiding.

The following presentations were made:

Dr. John D. Gordinier, Louisville: "Stilbestrol in the Treatment of Menopausal Symptoms and Senile Vaginitis."

Dr. Ruby F. Vogt, Louisville: "Chronic Vaginitis."

Dr. Chas. M. Edelen, Louisville: "Injection Treatment of Varicose Veins."

Dr. W. T. McConnell, Louisville: "The Prophylaxis of Postpartum Hemorrhage."

Dr. S. H. Starr, Louisville: "Toxemias of Pregnancy."

Dr. Robert F. Monroe, Louisville: "Sterility in the Female" (Lantern Slides).

Dr. Alice N. Pickett, Louisville: "Some Phases of Prenatal Care."

Dr. Laman A. Gray, Louisville: "The Use of Progesterone in Nervous Tension States."

Dr. C. J. Armstrong, Louisville: "When Is Surgery Indicated in Functional Uterine Bleeding?."

Dr. W. O. Johnson, Louisville: "Limitations of Estrogen Therapy."

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

LOUISVILLE DAY

Tuesday, November 12, 2:00 p. m.

A Clinical Session, OPHTHALMOLOGY AND OTOLARYNGOLOGY, was held at the Kentucky Hotel, Gold Ballroom, Louisville, Dr. M. C. Baker, Louisville, presiding.

The following presentations were made:

Dr. A. E. Leggett, Louisville: "Conjunctivitis."

Dr. Claude T. Wolfe, Louisville: "Glaucoma as a Cause of Blindness: The Importance of Its Early Recognition."

Dr. C. Dwight Townes, Louisville: "Differential Diagnosis of Fundus Lesions" (Lantern Slides).

Dr. Will R. Pryor, Louisville: "Hearing Aids."

Dr. Albert L. Bass, Louisville: "Sinusitis in Relation to General Systemic Disease" (Lantern Slides).

Dr. Shelton Watkins, Louisville: "Prevention of Deafness in Children."

Dr. Walter Dean, Louisville: "Is There a Substitute for Tonsillectomy?"

Dr. Auryne E. Bell, Louisville: "Pathology of Retropharyngeal Abscess" (Lantern Slides).

The Session then adjourned *sine die*.

GENERAL CLINICAL SESSION

Wednesday, November 13, 9:00 a. m.

A General Clinical Session, Joint Session with Section on Public Health, was held in the Armory, Room No. 2, Louisville, the President, Dr. Arthur T. McCormack, Louisville, presiding.

The following presentations were made:

Dr. Tom D. Spies, University of Cincinnati School of Medicine, Cincinnati, Ohio, and Birmingham, Alabama, Dr. William B. Bean, University of Cincinnati School of Medicine, Cincinnati, Ohio, and Dr. John H. Kooser, Hyden, Kentucky, presentation made by Dr. Bean: "Diagnosis and Treatment of Pellagra and Associated Nutritional Deficiencies" (Lantern Slides).

Dr. Horton Casparis, Professor of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tennessee: "Is the Behavior of Children a Medical Responsibility?"

Dr. Charles Stanley White, Professor of Surgery, George Washington University School of Medicine, Washington, D. C.: "The Use of Blood Plasma in Surgical Shock."

Dr. Nathan B. Van Etten, President, American Medical Association, New York, New York: "An American Health Program."

Dr. Thomas Parran, Surgeon General, United States Public Health Service, Washington, D. C.: "Building Health Defenses."

Dr. Chas. S. Stephenson, Commander, Medical Corps, U. S. Navy; In Charge of Division of Preventive Medicine, Bureau of Medicine and Surgery, U. S. Navy, Washington, D. C.: "The Naval Medical Officers' Public Health Activity with Special Reference to National Defense."

Dr. James S. Simmons, Lieutenant-Colonel, Medical Corps, U. S. Army; Chief, Subdivision of Preventive Medicine, Office of the Surgeon General, U. S. Army, Washington, D. C.: "Immunization Against Infectious Diseases in the United States Army" (Lantern Slides).

Early in the Session it was moved and carried without a dissenting vote that with the completion of the scientific program this General Clinical Session adjourn until the General Session at 8:00 p. m. at the Brown Hotel, Crystal Ballroom, the business indicated on the program to be transacted at this General Clinical Session to be carried over until the evening General Session.

At the completion of the program the Session adjourned until 8:00 p. m., Brown Hotel, Crystal Ballroom.

SECTION ON MEDICINE

Officers

Chairman—Dr. Henry G. Rudner, Memphis, Tennessee.
Vice-Chairman—Dr. W. G. Reddick, Dallas, Texas.
Secretary—Dr. Roy H. Turner, New Orleans, Louisiana.

Wednesday, November 13, 2:00 p. m.

The Section met in the Armory, Room No. 2, Louisville, Kentucky, and was called to order by the Chairman, Dr. Henry G. Rudner, Memphis, Tennessee, who presided.

Dr. Porter Paisley Vinson, Richmond, Virginia, read a paper entitled "The Etiology and Treatment of Pulmonary Hemorrhage, with Especial Reference to Bleeding in Cases of So-Called 'Dry Bronchiectasis'" (Lantern Slides), which was discussed by Dr. Maurice G. Buckles, Louisville, Kentucky; Dr. Lawrence W. Nehil, Louisville, Kentucky; and in closing by the essayist.

Paper by Dr. Emma Moss and Dr. J. O. Weilbaecher, New Orleans, Louisiana, entitled "Advances in Diagnosis and Treatment of Tularemia" (Lantern Slides), was read by Dr. Wellbaecher and was discussed by Dr. Leon S. Lippincott, Vicksburg, Mississippi, and in closing by Dr. Weilbaecher.

Dr. Warfield T. Longcope, Baltimore, Maryland, read a paper entitled "Variety 'X' or Virus Pneumonia" (Lantern Slides), which was discussed by Dr. John Walker Moore, Louisville, Kentucky, and in closing by the essayist.

Dr. W. Merritt Ketcham, Kansas City, Missouri, read a paper entitled "The Prognosis of Hypertensive Heart Disease" (Lantern Slides), which was discussed by Dr. Woodford B. Troutman, Louisville, Kentucky; Dr. Emmet F. Horine, Louisville, Kentucky; Dr. John W. Scott, Lexington, Kentucky; and in closing by the essayist.

Paper by Dr. William M. Nicholson and Dr. Vincent E. Moseley, Durham, North Carolina, entitled "The Use of Erythrol Tetranitrate as a Diuretic" (Lantern Slides), was read by Dr. Nicholson and was discussed by Dr. Virgil E. Simpson, Louisville, Kentucky, and in closing by Dr. Nicholson.

Dr. H. M. Winans, Dallas, Texas, read a paper entitled "Ventricular Strain: Clinical and Experimental Considerations" (Lantern Slides), which was discussed by Dr. E. G. Scott, Lynchburg, Virginia; Dr. Neuton S. Stern, Memphis, Tennessee; and in closing by the essayist.

Paper by Dr. T. Sterling Claiborne and Dr. Bernard P. Wolff, Atlanta, Georgia, entitled "Rheumatic Heart Disease in the South: Postmortem Studies" (Lantern Slides), was read by Dr. Claiborne, and was discussed by Dr. Emmet F. Horine, Louisville, Kentucky.

The Section then adjourned until 2:00 p. m. Thursday.

Thursday, November 14, 2:00 p. m.

The Section met in the Armory, Room No. 2, Louisville, Kentucky, and was called to order by the Chairman, Dr. Rudner, who presided.

Dr. W. de Gutierrez-Mahoney, Nashville, Tennessee, read a paper entitled "Neural Myatrophy and Vitamin E" (Lantern Slides), which was discussed by Dr. Seale Harris, Birmingham, Alabama; Dr. W. B. Bean, Cincinnati, Ohio; and in closing by the essayist.

Dr. Don C. Sutton, Chicago, Illinois, read a paper entitled "Interrelation Between the Vitamin B Complex and the Anterior Lobe of the Pituitary Gland" (Lantern Slides).

The Chairman appointed the following Nominating Committee: Dr. Lee Rice, San Antonio, Texas; Dr. George W. F. Rembert, Jackson, Mississippi; and Dr. J. E. Hirsch, Birmingham, Alabama.

Dr. Henry G. Rudner, Memphis, Tennessee, read his Chairman's Address entitled "Psychosoma, the Mind-Body Problem."

Dr. V. P. Sydenstricker, Augusta, Georgia, read a paper entitled "Ariboflavinosis, with Specific Reference to the Ocular Signs and Symptoms" (Lantern Slides), which was discussed by Dr. W. B. Bean, Cincinnati, Ohio; Dr. Herbert S. Alden, Atlanta, Georgia; and in closing by the essayist.

Paper by Dr. R. O. Muether, St. Louis, Missouri, and Dr. K. R. Andrews, Lexington, Kentucky, entitled "The Storage and Use of Blood, Plasma and Serum" (Lantern Slides), was read by Dr. Muether, and was discussed by Dr. L. W. Diggs, Memphis, Tennessee; Dr. A. A. Herold, Shreveport, Louisiana; and in closing by Dr. Muether.

Paper by Dr. Moise D. Levy and Dr. L. B. Duggan, Houston, Texas, entitled "Incidence, Symptoms and Medical Management of Hiatus Hernia of the Stomach in 1,200 Gastro-Intestinal Cases" (Lantern Slides), was read by Dr. Levy.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. John W. Scott, Lexington, Kentucky.
Vice-Chairman—Dr. V. P. Sydenstricker, Augusta, Georgia.
Secretary—Dr. Moise D. Levy, Houston, Texas.

The Section then adjourned *sine die*.

SECTION ON PEDIATRICS

Officers

Chairman—Dr. Harvey F. Garrison, Jackson, Mississippi.
Vice-Chairman—Dr. James W. Bruce, Louisville, Kentucky.
Secretary—Dr. Warren W. Quillian, Coral Gables, Florida.

Thursday, November 14, 9:00 a. m.

The Section met in the Kentucky Hotel, Georgian Room, Louisville, Kentucky, and was called to order by the Chairman, Dr. Harvey F. Garrison, Jackson, Mississippi, who presided.

Dr. C. H. Webb, Shreveport, Louisiana, read a paper entitled "Renal Complications in Acute Gingivostomatitis in Children" (Lantern Slides).

Dr. Harvey F. Garrison, Jackson, Mississippi, read his Chairman's Address, entitled "Child Health, the Responsibility of the Pediatrician and General Practitioner."

Dr. A. Graeme Mitchell, Cincinnati, Ohio, read a paper entitled "What Has Mathematics to do with Pediatrics?" (Lantern Slides).

SYMPOSIUM ON PEDIATRIC UROLOGY

Joint Session with Section on Urology

Dr. John E. Ashby, Dallas, Texas, and Dr. John M. Pace, Dallas, Texas, each read a paper entitled "Pyuria" (Lantern Slides).

Dr. May Agness Hopkins, Dallas, Texas, and Dr. Harry M. Spence, Dallas, Texas, each read a paper entitled "Enuresis."

Papers by Dr. Ashby and Dr. Pace, and Dr. Hopkins and Dr. Spence were discussed by Dr. Grayson Carroll, St. Louis, Missouri; Dr. Burnett W. Wright, Nashville, Tennessee; Dr. T. Leon Howard, Denver, Colorado; Dr. Gilbert J. Levy, Memphis, Tennessee; and in closing by the essayists.

The Section then adjourned until 9:00 a. m. Friday.

Friday, November 15, 9:00 a. m.

The Section met in the Kentucky Hotel, Georgian Room, Louisville, Kentucky, and was called to order by the Chairman, Dr. Garrison, who presided.

Paper by Dr. Frank R. Smith, Jr., and Dr. John M. Spence, Jr., Baltimore, Maryland, entitled "Congenital Syphilis in Only One of Twins" (Lantern Slides), was read by Dr. Smith, and was discussed by Dr. Philip F. Barbour, Louisville, Kentucky, and in closing by Dr. Smith.

The Chairman appointed the following Nominating Committee: Dr. D. Lesesne Smith, Sr., Spartanburg, South Carolina; Dr. Alfred A. Walker, Birmingham, Alabama; and Dr. Samuel F. Ravenel, Greensboro, North Carolina.

Paper by Dr. Luther W. Holloway and Dr. William H. McCullagh, Jacksonville, Florida, entitled "Thomsen's Disease" (Motion Pictures), was read by Dr. Holloway, and was discussed by Dr. Seale Harris, Birmingham, Alabama, and in closing by Dr. Holloway.

Dr. Wm. Weston, Columbia, South Carolina, read a paper entitled "Some Phases of Nutritional Disturbances in Childhood," which was discussed by Dr. J. K. Mack, Louisville, Kentucky; Dr. Seale Harris, Birmingham, Alabama; and in closing by the essayist.

Paper by Dr. Samuel F. Ravenel, Greensboro, North Carolina, and Dr. D. Lesesne Smith, Sr., Spartanburg, South Carolina, entitled "The Chemotherapy of Acute Bacillary Dysentery" (Lantern Slides), was read by Dr. Ravenel, and was discussed by Dr. D. Lesesne Smith, Sr., Spartanburg, South Carolina; Dr. Stewart H. Welch, Birmingham, Alabama; Dr. M. Hines Roberts, Atlanta, Georgia; and in closing by Dr. Ravenel.

Dr. W. Ambrose McGee, Richmond, Virginia, read a paper entitled "Recurrent Gastro-Intestinal Disturbances of Early Infancy," which was discussed by Dr. M. Hines Roberts, Atlanta, Georgia, and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Warren W. Quillian, Coral Gables, Florida.
Vice-Chairman—Dr. Jean V. Cooke, St. Louis, Missouri.
Secretary—Dr. William Weston, Jr., Columbia, South Carolina.

Dr. Wm. Weston, Columbia, South Carolina, expressed for the Section their appreciation to their hosts.

The Section then adjourned *sine die*.

SECTION ON GASTROENTEROLOGY

Officers

Chairman—Dr. Chauncey W. Dowden, Louisville, Kentucky.
Vice-Chairman—Dr. James L. Borland, Jacksonville, Florida.
Secretary—Dr. Donovan C. Browne, New Orleans, Louisiana.

Thursday, November 14, 9:00 a. m.

The Section met in the Armory, Room No. 2, Louisville, Kentucky, and was called to order by the Chairman, Dr. Chauncey W. Dowden, Louisville, Kentucky, who presided.

The Chairman appointed the following Nominating Committee: Dr. Joseph W. Larimore, St. Louis, Missouri; Dr. Walter R. Johnson, Asheville, North Carolina; and Dr. George W. F. Rembert, Jackson, Mississippi.

Paper by Dr. John Tilden Howard and Dr. Lay Martin, Baltimore, Maryland, entitled "This Gastritis Problem," was read by Dr. Howard, and was discussed by Dr. Julian M. Ruffin, Durham, North Carolina; Dr. Cecil O. Patterson, Dallas, Texas; Dr. R. John F. Renshaw, Cleveland, Ohio; and in closing by Dr. Howard.

Dr. Chauncey W. Dowden, Louisville, Kentucky, read his Chairman's Address entitled "Biliary Disease: Clinical Aspects" (Lantern Slides).

Dr. Albert F. R. Andresen, Brooklyn, New York, read a paper entitled "Gastro-Intestinal Allergy: Present Status," which was discussed by Dr. Warren T. Vaughan, Richmond, Virginia; Dr. Seale Harris, Sr., Birmingham, Alabama; Dr. Morris Shushan, New Orleans, Louisiana; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. James L. Borland, Jacksonville, Florida.
Vice-Chairman—Dr. Donovan C. Browne, New Orleans, Louisiana.
Secretary—Dr. Julian M. Ruffin, Durham, North Carolina.

Dr. Robert W. Kelley, St. Louis, Missouri, read a paper entitled "Duodenal Obstructions" (Lantern Slides), which was discussed by Dr. Joseph W. Larimore, St. Louis, Missouri; Dr. Henry G. Rudner, Memphis, Tennessee; and in closing by the essayist.

Dr. Thomas E. Buckman, Jacksonville, Florida, read a paper entitled "The Menace of Hematology," which was discussed by Dr. Sam A. Overstreet, Louisville, Kentucky; Dr. Joseph D'Antoni, New Orleans, Louisiana; and in closing by the essayist.

Dr. Daniel N. Silverman, New Orleans, Louisiana, read a paper entitled "The Treatment of Peptic Ulcer with a Magma of Magnesium Trisilicate" (Lantern Slides), which was discussed by Dr. Walter R. Johnson, Asheville, North Carolina; Dr. Jerome S. Levy, Little Rock, Arkansas; and in closing by the essayist.

The Section then adjourned for the luncheon meeting.

Thursday, November 14, 12:30 noon

The Section met in the Pendennis Club, Louisville, Kentucky, for a luncheon meeting, the Chairman, Dr. Chauncey W. Dowden, presiding.

Dr. V. P. Sydenstricker, Augusta, Georgia, presented the subject "Clinical Manifestations of B Group Avitaminoses" (Lantern Slides).

The Section then adjourned *sine die*.

SECTION ON PATHOLOGY

Officers

Chairman—Dr. Roy R. Kracke, Emory University, Georgia.
Vice-Chairman—Dr. A. J. Miller, Louisville, Kentucky.
Secretary—Dr. R. H. Rigdon, Memphis, Tennessee.

Wednesday, November 13, 2:00 p. m.

The Section met in the Kentucky Hotel, Parlor B, Louisville, Kentucky, and was called to order by the Chairman, Dr. Roy R. Kracke, Emory University, Georgia, who read his Chairman's Address entitled "The Diagnosis and Treatment of the Purpuric Diseases."

Paper by Dr. Melvin H. Knisely, Dr. Warren K. Stratman-Thomas and Dr. Theodore S. Eliot, Memphis, Tennessee, entitled "*In vivo* Studies of the Progressive Pathological Changes in Experimental Malaria of Monkeys: Microscopic Observations of the Changes in the Blood and Circulation in the Small Vessels of Internal Organs in Living Animals" (Motion Pictures), was read by Dr. Knisely, and was discussed by Dr. Henry E. Meleney, Nashville, Tennessee; Dr. R. H. Rigdon, Memphis, Tennessee; and in closing by Dr. Knisely.

The Chairman appointed the following Nominating Committee: Dr. Everett L. Bishop, Atlanta, Georgia; Dr. M. Pinson Neal, Columbia, Missouri; and Dr. Harry C. Schmeisser, Memphis, Tennessee.

SYMPOSIUM ON SOME OF THE FACTORS INFLUENCING INFECTION AND INFLAMMATION

Dr. Douglas H. Sprunt, Durham, North Carolina, presented the subject "Effect of the Female Sex Hormones on Infection and Inflammation."

Dr. E. White Patton, Nashville, Tennessee, presented the subject "Effect of Vitamins on Infection and Inflammation."

Dr. R. H. Rigdon, Memphis, Tennessee, presented the subject "Relation of Capillary Permeability to Inflammation" (Motion Pictures).

The Symposium was discussed by Dr. Melvin H. Knisely, Memphis, Tennessee; Dr. Wiley D. Forbus, Durham, North Carolina; and in closing by Dr. Sprunt.

The Section then adjourned until 2:00 p. m. Thursday.

Thursday, November 14, 2:00 p. m.

The Section met in the Kentucky Hotel, Parlor B, Louisville, Kentucky, and was called to order by the Chairman, Dr. Kracke, who presided.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. A. J. Miller, Louisville, Kentucky.
Vice-Chairman—Dr. W. R. Mathews, Shreveport, Louisiana.
Secretary—Dr. R. H. Rigdon, Memphis, Tennessee.

Paper by Dr. Wiley D. Forbus and Dr. June U. Gunter, Durham, North Carolina, entitled "Experimental Brucellosis" (Lantern Slides), was read by Dr. Gunter, and was discussed by Dr. George T. Caldwell, Dallas, Texas; Dr. M. Pinson Neal, Columbia, Missouri; Dr. Elizabeth Gambrell, Emory University, Georgia; Dr. Roy R. Kracke, Emory University, Georgia; Dr. Oscar B. Hunter, Washington, D. C.; and in closing by Dr. Forbus.

Dr. W. A. D. Anderson, St. Louis, Missouri, read a paper entitled "Sucrose Nephrosis and Other Types of Renal Tubular Injuries" (Lantern Slides), which was discussed by Dr. Robert A. Moore, St. Louis, Missouri; Dr. R. H. Rigdon, Memphis, Tennessee; Dr. Wiley D. Forbus, Durham, North Carolina; Dr. Lucien Y. Dyrenforth, Jacksonville, Florida; and in closing by the essayist.

Dr. M. Pinson Neal, Columbia, Missouri, read a paper entitled "Fat Necrosis Studies: IV. Observations on Peanut Fattened Hogs" (Lantern Slides), which was discussed by Dr. A. J. Miller, Louisville, Kentucky; Dr. Harry C. Schmeisser, Memphis, Tennessee; and in closing by the essayist.

Dr. Clement C. Fenton, Morgantown, West Virginia, read a paper entitled "A Pathologist's View of Uterine Lesions" (Lantern Slides), which was discussed by Dr. Laman A. Gray, Louisville, Kentucky; Dr. Harry C. Schmeisser, Memphis, Tennessee; and in closing by the essayist.

Paper by Dr. John S. Howe, Richmond, Virginia, and Dr. Warren H. Cole, Chicago, Illinois, entitled "The Hepato-Pancreatic Syndrome: A Case of Lipocoic Deficiency with Autopsy," was read by Dr. Howe, and was discussed by Dr. Guy W. Horsley, Richmond, Virginia.

The Section then adjourned *sine die*.

SECTION ON NEUROLOGY AND PSYCHIATRY

Officers

Chairman—Dr. Spafford Ackerly, Louisville, Kentucky.
Vice-Chairman—Dr. David C. Wilson, Charlottesville, Virginia.
Secretary—Dr. Theodore A. Watters, New Orleans, Louisiana.

Thursday, November 14, 9:00 a. m.

The Section met in the Armory, Room No. 4, Louisville, Kentucky, and was called to order by the Chairman, Dr. Spafford Ackerly, Louisville, Kentucky, who presided.

Dr. Carroll C. Turner, Memphis, Tennessee, read a paper entitled "Spontaneous Subarachnoid Hemorrhage," which was discussed by Dr. Frank H. Redwood, Norfolk, Virginia; Dr. Edward F. Reaser, Huntington, West Virginia; Dr. H. McGuire Doles, Norfolk, Virginia; Dr. W. de Gutierrez-Mahoney, Nashville, Tennessee; Dr. Beverley R. Tucker, Richmond, Virginia; and in closing by the essayist.

Dr. Gilbert C. Anderson, New Orleans, Louisiana, read a paper entitled "Psychoses in Frontal Tumors," which was discussed by Dr. Dick C. McCool, Memphis, Tennessee; Dr. Cobb Pilcher, Nashville, Tennessee; Dr. W. de Gutierrez-Mahoney, Nashville, Tennessee; Dr. Carrol C. Turner, Memphis, Tennessee; and in closing by the essayist.

Dr. Beverley R. Tucker, Richmond, Virginia, read a paper entitled "The Hypothalamus in Neuropsychiatry" (Lantern Slides), which was discussed by Dr. Wilmot S. Littlejohn, Birmingham, Alabama; Dr. W. de Gutierrez-Mahoney, Nashville, Tennessee; and in closing by the essayist.

Paper by Dr. Horace K. Richardson, Baltimore, Maryland, entitled "Treatment of the Psychoneuroses," was read by Dr. William K. Keller, Louisville, Kentucky, in the absence of the essayist, and was discussed by Dr. Titus H. Harris, Galveston, Texas; Dr. Martha W. McDonald, New Orleans, Louisiana; Dr. Dexter M. Bullard, Rockville, Maryland; and Dr. Spafford Ackerly, Louisville, Kentucky.

Dr. George H. Preston, Baltimore, Maryland, read a paper entitled "The Advantages and Disadvantages of a Centralized Department of Mental Health," which was discussed by Dr. Joseph G. Wilson, Frankfort, Kentucky; Dr. Oscar B. Darden, Richmond, Virginia; Dr. David C. Wilson, Charlottesville, Virginia; Dr. Spafford Ackerly, Louisville, Kentucky; and in closing by the essayist.

The Section then adjourned until 9:00 a. m. Friday.

Friday, November 15, 9:00 a. m.

The Section met in the Armory, Room No. 4, Louisville, Kentucky, and was called to order by the Chairman, Dr. Ackerly, who presided.

Paper by Dr. Nicholas Gotten and Dr. Gilbert J. Levy, Memphis, Tennessee, entitled "Post-Infectious Encephalomyelitis: A Review of Cases," was read by Dr. Gotten, and was discussed by Dr. Spafford Ackerly, Louisville, Kentucky; Dr. Raymond S. Crispell, Durham, North Carolina; Dr. S. R. Warson, Louisville, Kentucky; Dr. Gilbert J. Levy, Memphis, Tennessee; Dr. John D. Campbell, Louisville, Kentucky; Dr. Lewis A. Golden, New Orleans, Louisiana; and in closing by Dr. Gotten.

Dr. Spafford Ackerly, Louisville, Kentucky, read his Chairman's Address entitled "Trends in Psychiatric Teaching and Practice."

Dr. John C. Whitehorn, St. Louis, Missouri, read a paper entitled "Attempts to Teach Principles of Psychiatric Interviewing," which was discussed by Dr. W. E. Gardner, Louisville, Kentucky; Dr. Raymond S. Crispell, Durham, North Carolina; Dr. Lewis A. Golden, New Orleans, Louisiana; Dr. Spafford Ackerly, Louisville, Kentucky; Dr. Salomon Katzenelbogen, Washington, D. C.; and in closing by the essayist.

Dr. Wendell S. Muncie, Baltimore, Maryland, read a paper entitled "The Present Status of Psychiatry and Psychiatric Treatment, with Special Attention to the Coma and Convulsion Treatment," which was discussed by Dr. Salomon Katzenelbogen, Washington, D. C.; Dr. W. Walter Young, Atlanta, Georgia; Dr. Beverley R. Tucker, Richmond, Virginia; Dr. William R. Griffin, Asheville, North Carolina; Dr. Dexter M. Bullard, Rockville, Maryland; and in closing by the essayist.

Dr. Robert Hanna Felix, Lexington, Kentucky, read a paper entitled "The Drug Addict as a Psychiatric Problem," which was discussed by Dr. Robert V. Seliger, Baltimore, Maryland; Dr. G. Wilse Robinson, Kansas City, Missouri; Dr. David C. Wilson, Charlottesville, Virginia; Dr. Wendell S. Muncie, Baltimore, Maryland; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. David C. Wilson, Charlottesville, Virginia.
Vice-Chairman—Dr. Theodore A. Watters, New Orleans, Louisiana.
Secretary—Dr. Cobb Pilcher, Nashville, Tennessee.

Votes of appreciation were extended to the officers of the Section and to the Louisville hosts.

A motion was made by Dr. David C. Wilson, seconded and carried, that a committee from the Section be appointed which would attempt to get the cooperation of other similar organizations in canvassing the different types of state organizations so as to determine the type best suited as an ideal toward which all could strive.

The Section then adjourned *sine die*.

SECTION ON RADIOLOGY

Officers

Chairman—Dr. Ralph E. Myers, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. David Y. Keith, Louisville, Kentucky.
Secretary—Dr. W. R. Brooksher, Fort Smith, Arkansas.

Wednesday, November 13, 2:00 p. m.

The Section met in the Armory, Room No. 4, Louisville, Kentucky, and was called to order by the Chairman, Dr. Ralph E. Myers, Oklahoma City, Oklahoma. Dr. Myers presided for a part of the session, and the Vice-Chairman, Dr. D. Y. Keith, Louisville, Kentucky, for the remainder.

Dr. Ralph E. Myers, Oklahoma City, Oklahoma, read his Chairman's Address entitled "The Science and Art of Cancer Therapy."

Paper by Dr. D. A. Rhinehart and Dr. B. A. Rhinehart, Little Rock, Arkansas, entitled "Experiences with Protracted Roentgen Therapy of Malignancies, Particularly of the Head and Face," was read by Dr. D. A. Rhinehart, and was discussed by Dr. Ira H. Lockwood, Kansas City, Missouri; Dr. D. Y. Keith, Louisville, Kentucky; and in closing by Dr. D. A. Rhinehart.

Dr. Frank E. Hoecker (Ph.D.), Kansas City, Missouri, read a paper entitled "The Evolution of the X-Ray Tube" (Lantern Slides).

Dr. William E. Eastland, Oklahoma City, Oklahoma, read a paper entitled "The Role of Deep X-Ray Therapy in the Treatment of Pruritus Vulvae," which was discussed by Dr. Franklin B. Bogart, Chattanooga, Tennessee, and in closing by the essayist.

Dr. William S. Wallace, Durham, North Carolina, read a paper entitled "Studies in Radiation Sickness: II. Vitamins and the Small Intestinal Changes in Radiation Sickness," which was discussed by Dr. Edwin C. Ernst, St. Louis, Missouri; Dr. Wright Clarkson, Petersburg, Virginia; Dr. Joseph W. Kelso, Oklahoma City, Oklahoma; Dr. D. Y. Keith, Louisville, Kentucky; and in closing by the essayist.

Paper by Dr. Wendell G. Scott, Dr. Sherwood Moore and Dr. Thomas G. Russell, St. Louis, Missouri, entitled "Body Section Radiography in the Diagnosis of Aortic Aneurysms and Mediastinal Tumors" (Lantern Slides), was read by Dr. Scott, and was discussed by Dr. E. Lee Shiflett, Louisville, Kentucky; Dr. Thos. H. Lipscomb, Jacksonville, Florida; and in closing by Dr. Scott.

The Chairman appointed the following Nominating Committee: Dr. D. A. Rhinehart, Little Rock, Arkansas; Dr. Ira H. Lockwood, Kansas City, Missouri; and Dr. Wright Clarkson, Petersburg, Virginia.

The Section then adjourned until 2:00 p. m. Thursday.

Thursday, November 14, 2:00 p. m.

The Section met in the Armory, Room No. 4, Louisville, Kentucky, and was called to order by the Chairman, Dr. Myers, who presided.

Dr. Harold G. F. Edwards, Shreveport, Louisiana, read a paper entitled "Vascular Birthmarks" (Lantern Slides), which was discussed by Dr. J. Cash King, Memphis, Tennessee; Dr. William E. Eastland, Oklahoma City, Oklahoma; and in closing by the essayist.

Dr. Elliott M. Hendricks, Fort Lauderdale, Florida, read a paper entitled "The Colon as a Focus of Infection," which was discussed by Dr. Joseph C. Bell, Louisville, Kentucky.

Dr. Edwin C. Ernst, St. Louis, Missouri, read a paper entitled "The Roentgen Examination of the Mandibular Joint" (Lantern Slides), which was discussed by Dr. Vincent W. Archer, University, Virginia.

Dr. Edward M. Livingston, New York, New York, read a paper entitled "The Use of Endogastric Applicators in the Treatment of Cancer of the Stomach" (Lantern Slides).

Dr. Fred Hames, Pine Bluff, Arkansas, read a paper entitled "Accurate Placement of Radon Seed by Suture Method" (Lantern Slides), which was discussed by Dr. Horace D. Gray, Memphis, Tennessee; Dr. Harold G. F. Edwards, Shreveport, Louisiana; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Edwin C. Ernst, St. Louis, Missouri.
Vice-Chairman—Dr. J. Cash King, Memphis, Tennessee.
Secretary—Dr. W. R. Brooksher, Fort Smith, Arkansas.

The Section expressed, by unanimous vote, its appreciation to its hosts.

The Section then adjourned *sine die*.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

Officers

Chairman—Dr. Howard Hailey, Atlanta, Georgia.
Vice-Chairman—Dr. A. B. Loveman, Louisville, Kentucky.
Secretary—Dr. John H. Lamb, Oklahoma City, Oklahoma.

Thursday, November 14, 9:00 a. m.

The Section met in the Armory, Room No. 3, Louisville, Kentucky, and was called to order by the Chairman, Dr. Howard Hailey, Atlanta, Georgia, who presided.

Dr. Richard L. Sutton, Jr., Kansas City, Missouri, read a paper entitled "Acne Vulgaris: Etiology and Treatment" (Lantern Slides).

Dr. Andrew L. Glaze, Birmingham, Alabama, read a paper entitled "The Prophylaxis of Acne Vulgaris."

Papers by Dr. Sutton and Dr. Glaze were discussed by Dr. M. T. Van Studdiford, New Orleans, Louisiana; Dr. Thomas W. Murrell, Richmond, Virginia; Dr. M. Toulmin Gaines, Mobile, Alabama; Dr. Martin F. Engman, St. Louis, Missouri; Dr. Herbert S. Alden, Atlanta, Georgia; Dr. Dudley C. Smith, University, Virginia; Dr. Harry M. Robinson, Baltimore, Maryland; Dr. J. Lewis Pipkin, San Antonio, Texas; Dr. D. Truett Gandy, Houston, Texas; Dr. Robert Brandt, Augusta, Georgia; and in closing by the essayists.

Dr. James H. Mitchell, Chicago, Illinois, read a paper entitled "Differential Diagnosis of Dermatoses of the Hands and Feet" (Lantern Slides), which was discussed by Dr. Everett S. Lain, Oklahoma City, Oklahoma; Dr. Elmo D. French, Miami, Florida; Dr. Andrew L. Glaze, Birmingham, Alabama; Dr. E. R. Hall, Memphis, Tennessee; and in closing by the essayist.

Upon motion, duly seconded and carried unanimously, the Section gave a rising vote of thanks to Dr. Mitchell for his address.

Paper by Dr. Howard King and Dr. C. M. Hamilton, Nashville, Tennessee, entitled "Use of Liver Extract in Lupus Erythematosus: A Preliminary Report," was read by Dr. King, and was discussed by Dr. Onis George Hazel, Oklahoma City, Oklahoma; Dr. M. Toulmin Gaines, Mobile, Alabama; Dr. Richard L. Sutton, Jr., Kansas City, Missouri; Dr. Everett S. Lain, Oklahoma City, Oklahoma; and in closing by Dr. King.

Paper by Dr. Leslie M. Smith and Dr. Raymond P. Hughes, El Paso, Texas, entitled "Observations on Atopic Dermatitis," was read by Dr. Smith, and was discussed by Dr. Winston U. Rutledge, Louisville, Kentucky; Dr. Martin F. Engman, St. Louis, Missouri; Dr. Robert Brandt, Augusta, Georgia; and in closing by Dr. Smith.

The Section then adjourned until 9:00 a. m. Friday.

Friday, November 15, 9:00 a. m.

The Section met in the Armory, Room No. 3, Louisville, Kentucky, and was called to order by the Chairman, Dr. Howard Hailey, Atlanta, Georgia, who read his Chairman's Address, entitled "Pruritus Ani et Vulvae, a Symptom of Eczema: Further Observations and Report of Sixty-One Additional Cases" (Lantern Slides).

The Chairman appointed the following Nominating Committee: Dr. J. Lewis Pipkin, San Antonio, Texas; Dr. C. C. Barrett, Lexington, Kentucky; and Dr. Leslie M. Smith, El Paso, Texas.

Dr. Lawrence R. Wharton, Baltimore, Maryland, read a paper entitled "Treatment of Pruritus of the Perineum, Labia and Vagina by Newer Methods, Including Injection of Alcohol and

Use of Stilbestrol and Negatol," which was discussed by Dr. J. W. Kelso, Oklahoma City, Oklahoma; Dr. Howard King, Nashville, Tennessee; Dr. M. T. Van Studdiford, New Orleans, Louisiana; and in closing by the essayist.

Paper by Dr. Joseph L. Hundley and Dr. Dudley C. Smith, University, Virginia, entitled "Epidermolysis Bullosa Acquisita: Review and Report of a Case" (Lantern Slides), was read by Dr. Smith, and was discussed by Dr. Everett S. Lain, Oklahoma City, Oklahoma; Dr. Andrew L. Glaze, Birmingham, Alabama; Dr. Robert Brandt, Augusta, Georgia; and Dr. Alan Brown, Jacksonville, Florida.

Dr. Elmo D. French, Miami, Florida, read a paper entitled "Experiences with Hydrophil Bases and Sulfonated Products," which was discussed by Dr. J. Lewis Pipkin, San Antonio, Texas, and in closing by the essayist.

Dr. Everett C. Fox, Dallas, Texas, read a paper entitled "Clinical and Statistical Evaluation of Histaminase (Torantil) in Dermatology" (Lantern Slides), which was discussed by Dr. Herbert S. Alden, Atlanta, Georgia; Dr. M. T. Van Studdiford, New Orleans, Louisiana; and in closing by the essayist.

Paper by Dr. Joseph M. Hitch, Raleigh, North Carolina, Dr. J. Lamar Callaway, Durham, North Carolina, and Dr. Vince Moseley, Orangeburg, South Carolina, entitled "Familial Darier's Disease" (Lantern Slides), was read by Dr. Hitch, and was discussed by Dr. Clinton W. Lane, St. Louis, Missouri; Dr. Howard Hailey, Atlanta, Georgia; and Dr. C. C. Barrett, Lexington, Kentucky.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Howard King, Nashville, Tennessee.
Vice-Chairman—Dr. A. H. Conrad, St. Louis, Missouri.
Secretary—Dr. Alan Brown, Jacksonville, Florida.

The Section then adjourned *sine die*.

SECTION ON ALLERGY

Officers

Chairman—Dr. Homer E. Prince, Houston, Texas.
Vice-Chairman—Dr. Marion T. Davidson, Birmingham, Alabama.
Secretary—Dr. Clarence K. Weil, Montgomery, Alabama.

Wednesday, November 13, 9:00 a. m.

The Section met in the Armory, Room No. 3, Louisville, Kentucky, and was called to order by the Chairman, Dr. Homer E. Prince, Houston, Texas, who presided.

Dr. Boen Swinny, San Antonio, Texas, read a paper entitled "The Atopic Factors in Urticaria" (Lantern Slides), which was discussed by Dr. Charles H. Eyermann, St. Louis, Missouri; Dr. Orval R. Withers, Kansas City, Missouri; Dr. J. Harvey Black, Dallas, Texas; Dr. C. Malone Stroud, St. Louis, Missouri; Dr. Alan G. Cazort, Little Rock, Arkansas; and in closing by the essayist.

Dr. Katherine Bain, St. Louis, Missouri, read a paper entitled "Eczema in Infancy and Childhood," which was discussed by Dr. W. Ambrose McGee, Richmond, Virginia; Dr. Edna S. Pennington, Nashville, Tennessee; Dr. R. C. Miller, Gastonia, North Carolina; Dr. William F. Mitchell, Columbus, Ohio; Dr. Oscar Swineford, University, Virginia; Dr. C. B. Bohner, Indianapolis, Indiana; Dr. Alan G. Cazort, Little Rock, Arkansas; Dr. Boen Swinny, San Antonio, Texas; and in closing by the essayist.

Dr. Roger P. Wodehouse (Ph.D.), Yonkers, New York, read a paper entitled "Hay Fever Plants in the South" (Lantern Slides).

Dr. Susan C. Dees, Durham, North Carolina, read a paper entitled "Value of the Weltmann Reaction in Allergic Diseases" (Lantern Slides), which was discussed by Dr. O. C. E. Hansen-Pruss, Durham, North Carolina; Dr. J. Harvey Black, Dallas, Texas; and in closing by the essayist.

Dr. Ralph Bowen, Houston, Texas, read a paper entitled "Allergic Conjunctivitis" (Lantern Slides), which was discussed by Dr. C. Malone Stroud, St. Louis, Missouri; Dr. J. Warrick Thomas, Cleveland, Ohio; Dr. Leon Unger, Chicago, Illinois; Dr. Alan G. Cazort, Little Rock, Arkansas; Dr. George L. Waldbott, Detroit, Michigan; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. L. O. Dutton, El Paso, Texas; Dr. Oscar Swineford, University, Virginia; and Dr. French K. Hansel, St. Louis, Missouri.

Paper by Dr. Henry J. Climo and Dr. Clarence K. Weil, Montgomery, Alabama, entitled "Specific Chemotherapy in Status Asthmaticus," was read by Dr. Climo, and was discussed by Dr. Warren T. Vaughan, Richmond, Virginia; Dr. Marion T. Davidson, Birmingham, Alabama; Dr. Oscar Swineford, University, Virginia; Dr. Homer E. Prince, Houston, Texas; Dr. Stanley F. Hampton, St. Louis, Missouri; and in closing by Dr. Weil.

The Section then adjourned until 12:30 noon Wednesday.

Wednesday, November 13, 12:30 noon

The Round Table Luncheon Session met at the Pendennis Club, Louisville, and was called to order by the Chairman, Dr. Prince, who turned the meeting over to Dr. Warren T. Vaughan, Richmond, Virginia, who presided.

Dr. E. Rankin Denny, Tulsa, Oklahoma, read a paper entitled "Blunders of Gastro-Intestinal Plain Muscle, Due to Allergy or Anxiety States," which was discussed by Dr. L. O. Dutton, El Paso, Texas; Dr. Jonathan Forman, Columbus, Ohio; Dr. Albert F. R. Andresen, Brooklyn, New York; in closing by the essayist, followed by the commentator, Dr. J. Harvey Black, Dallas, Texas.

Dr. Gertrude R. Holmes, Greenville, South Carolina, read a paper entitled "Analysis of Some Cases of Gastro-Intestinal Allergy Associated with Organic Disease," which was discussed by Dr. Morris Shushan, New Orleans, Louisiana; Dr. Geo. E. Rockwell, Cincinnati, Ohio; Dr. Oscar Swineford, University, Virginia; and in closing by the essayist, followed by the commentator, Dr. Alan G. Cazort, Little Rock, Arkansas.

Paper by Dr. J. Warrick Thomas and Dr. R. John F. Renshaw, Cleveland, Ohio, entitled "Gastro-Intestinal Allergy: Proctoscopic Observations," was read by Dr. Thomas in part and by Dr. Renshaw in part, and was discussed by Dr. Tell Nelson, Evanston, Illinois, and followed by the commentator, Dr. Oscar Swineford, University, Virginia.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Marion T. Davidson, Birmingham, Alabama.
Vice-Chairman—Dr. C. Malone Stroud, St. Louis, Missouri.
Secretary—Dr. Clarence K. Weil, Montgomery, Alabama.

The Section then adjourned *sine die*.

SECTION ON SURGERY

Officers

Chairman—Dr. J. M. T. Finney, Jr., Baltimore, Maryland.
Vice-Chairman—Dr. Claude J. Hunt, Kansas City, Missouri.
Secretary—Dr. J. A. Crisler, Jr., Memphis, Tennessee.

Thursday, November 14, 9:00 a. m.

The Section met in the Armory, Room No. 1, Louisville, Kentucky, and was called to order by the Chairman, Dr. J. M. T. Finney, Jr., Baltimore, Maryland, who presided.

Dr. Morton J. Tendler, Memphis, Tennessee, read a paper entitled "Pilonidal Sinus" (Lantern Slides), which was discussed by Dr. Malcom D. Thompson, Louisville, Kentucky; Dr. Rufus C. Alley, Lexington, Kentucky; Dr. Robert L. Sanders, Memphis, Tennessee; Dr. W. Kress McIntyre, St. Louis, Missouri; Dr. Martin S. Kleckner, Allentown, Pennsylvania; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. P. G. Gamble, Greenville, Mississippi; Dr. Malcom D. Thompson, Louisville, Kentucky; and Dr. Guy W. Horsley, Richmond, Virginia.

Paper by Dr. George H. Bunch and Dr. L. E. Madden, Columbia, South Carolina, entitled "Abdominal Arterial Apoplexy" (Lantern Slides), was read by Dr. Bunch, and was discussed by Dr. M. Joseph Henry, Louisville, Kentucky; Dr. W. P. Davidson, Decatur, Illinois; and in closing by Dr. Bunch.

Dr. George R. Enloe, Fort Worth, Texas, read a paper entitled "Regional Ileitis" (Motion Pictures), which was discussed by

Dr. M. Joseph Henry, Louisville, Kentucky; Dr. Francis M. Massie, Lexington, Kentucky; Dr. W. F. Harper, Selma, Alabama; and in closing by the essayist.

Dr. Thomas E. Jones, Cleveland, Ohio, read a paper entitled "Early Diagnosis and Treatment of Carcinoma of the Rectum."

Dr. Fred W. Rankin, Lexington, Kentucky, read a paper entitled "Surgery for Chronic Ulcerative Colitis: Indications and Types of Operations," which was discussed by Dr. William J. Martin, Jr., Louisville, Kentucky; Dr. Coleman C. Johnston, Lexington, Kentucky; and Dr. John L. Jelks, Memphis, Tennessee.

The Section adjourned until 9:00 a. m. Friday.

Friday, November 15, 9:00 a. m.

The Section met in the Armory, Room No. 1, Louisville, Kentucky, and was called to order by the Vice-Chairman, Dr. Claude J. Hunt, Kansas City, Missouri, who presided.

Dr. J. M. T. Finney, Jr., Baltimore, Maryland, read his Chairman's Address entitled "The Doctor as a Teacher."

Dr. Thomas O. Otto, Miami, Florida, read a paper entitled "Operation for Relief of Ascites from Hepatic Cirrhosis" (Lantern Slides), which was discussed by Dr. H. Hart Hagan, Louisville, Kentucky; Dr. Guy Aud, Louisville, Kentucky; Dr. Jos. M. Frehling, Louisville, Kentucky; Dr. L. Wallace Frank, Louisville, Kentucky; and in closing by the essayist.

Dr. Donnell B. Cobb, Goldsboro, North Carolina, read a paper entitled "Posterior Vaginal Hernia" (Lantern Slides), which was discussed by Dr. John C. Burch, Nashville, Tennessee; Dr. J. B. Lukins, Louisville, Kentucky; Dr. Dan C. Donald, Birmingham, Alabama; and in closing by the essayist.

Dr. Amos R. Koontz, Baltimore, Maryland, read a paper entitled "Experience with the Injection Treatment of Hernia," which was discussed by Dr. Pat R. Imes, Louisville, Kentucky; Dr. Fredk. W. Fiedler, Memphis, Tennessee; Dr. J. M. T. Finney, Jr., Baltimore, Maryland; and in closing by the essayist.

Dr. Howard Mahorner, New Orleans, Louisiana, read a paper entitled "Radical Operation for Severe Varicose Veins and Varicose Ulcers" (Lantern Slides), which was discussed by Dr. R. Arnold Griswold, Louisville, Kentucky; and Dr. Woolfolk Barrow, Lexington, Kentucky.

Dr. John M. Meredith, University, Virginia, read a paper entitled "Can the Site and Degree of Injury and the Prognosis in Head Trauma be Accurately Determined by Spinal Fluid Erythrocite Counts?: An Experimental Study" (Lantern Slides), which was discussed by Dr. Franklin Jelsma, Louisville, Kentucky; Dr. R. Glen Spurling, Louisville, Kentucky; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Claude J. Hunt, Kansas City, Missouri.
Vice-Chairman—Dr. J. Duffy Hancock, Louisville, Kentucky.
Secretary—Dr. J. A. Crisler, Jr., Memphis, Tennessee.

The Section then adjourned *sine die*.

SECTION ON BONE AND JOINT SURGERY

Officers

Chairman—Dr. J. Hiram Kite, Atlanta, Georgia.
Vice-Chairman—Dr. F. Walter Carruthers, Little Rock, Arkansas.
Secretary—Dr. Guy W. Leadbetter, Washington, D. C.

Wednesday, November 13, 2:00 p. m.

The Section met in the Armory, Room No. 1, Louisville, Kentucky, and was called to order by the Chairman, Dr. J. Hiram Kite, Atlanta, Georgia, who presided.

Dr. Lenox D. Baker, Durham, North Carolina, read a paper entitled "Acute Osteomyelitis with Acute Staphylococcemia" (Lantern Slides), which was discussed by Dr. J. Albert Key, St. Louis, Missouri; Dr. W. Barnett Owen, Louisville, Kentucky; Dr. Howard Mahorner, New Orleans, Louisiana; and in closing by the essayist.

Dr. Winthrop M. Phelps, Baltimore, Maryland, read a paper entitled "Cerebral Palsy," which was discussed by Dr. Lenox D. Baker, Durham, North Carolina; Dr. Paul C. Colonna, Oklahoma City, Oklahoma; Dr. J. Albert Key, St. Louis, Missouri; Dr. J. Hiram Kite, Atlanta, Georgia; and in closing by the essayist.

Dr. Ruth Jackson, Dallas, Texas, read a paper entitled "A Comparative Study of the Treatment of Compound Fractures" (Lantern Slides), which was discussed by Dr. Brandon Carrell, Dallas, Texas; Dr. Harold R. Bohlman, Baltimore, Maryland; Dr. J. Albert Key, St. Louis, Missouri; Dr. F. Walter Carruthers, Little Rock, Arkansas; and in closing by the essayist.

Dr. J. Hiram Kite, Atlanta, Georgia, read his Chairman's Address entitled "Congenital Pseudarthrosis of the Tibia and Fibula" (Lantern Slides).

Dr. Herbert E. Hipps, Marlin, Texas, read a paper entitled "Muscle Pathology in Anterior Poliomyelitis: Its Relation to Function" (Lantern Slides), which was discussed by Dr. J. Albert Key, St. Louis, Missouri; Dr. Charles E. Irwin, Warm Springs, Georgia; Dr. J. Warren White, Greenville, South Carolina; Dr. Winthrop M. Phelps, Baltimore, Maryland; and in closing by the essayist.

Dr. George O. Eaton, Baltimore, Maryland, read a paper entitled "Results of Lowman Abdominal Stabilization" (Lantern Slides), which was discussed by Dr. Charles E. Irwin, Warm Springs, Georgia; Dr. Lenox D. Baker, Durham, North Carolina; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. W. Barnett Owen, Louisville, Kentucky; Dr. Paul C. Colonna, Oklahoma City, Oklahoma; and Dr. Frank A. Hoshall, Charleston, South Carolina.

The Section adjourned until 2:00 p. m. Thursday.

Thursday, November 14, 2:00 p. m.

The Section met in the Armory, Room No. 1, Louisville, Kentucky, and was called to order by the Chairman, Dr. Kite, who presided.

Dr. Howard B. Shorbe, Oklahoma City, Oklahoma, read a paper entitled "Car Window Elbows" (Lantern Slides) which was discussed by Dr. Hugh Smith, Memphis, Tennessee; Dr. Charles F. Wood, Louisville, Kentucky; and in closing by the essayist.

Dr. H. Winnett Orr, Lincoln, Nebraska, read a paper entitled "The Importance of Primary Care in the Treatment of Compound Fractures," which was discussed by Dr. Duncan Eve, Nashville, Tennessee, and in closing by the essayist.

Dr. Frank A. Hoshall, Charleston, South Carolina, read a paper entitled "Treatment of Fractures of the Lower Third of the Humerus" (Lantern Slides), which was discussed by Dr. J. Warren White, Greenville, South Carolina; Dr. C. R. Rountree, Oklahoma City, Oklahoma; Dr. F. Walter Carruthers, Little Rock, Arkansas; and in closing by the essayist.

Paper by Dr. J. S. Speed and Dr. Hugh Smith, Memphis, Tennessee, entitled "Trochanteric Osteotomy for Ununited Fractures of the Neck of the Femur" (Lantern Slides), was read by Dr. Smith, and was discussed by Dr. Guy W. Leadbetter, Washington, D. C.; Dr. F. A. Jostes, St. Louis, Missouri; Dr. Paul C. Colonna, Oklahoma City, Oklahoma; Dr. W. Barnett Owen, Louisville, Kentucky; and in closing by Dr. Smith.

Dr. Harry D. Morris, New Orleans, Louisiana, read a paper entitled "The Trochanteric Fracture" (Lantern Slides), which was discussed by Dr. Lawson Thornton, Atlanta, Georgia; Dr. F. Walter Carruthers, Little Rock, Arkansas; Dr. O. P. Board, Birmingham, Alabama; Dr. J. Warren White, Greenville, South Carolina; Dr. J. R. Bost, Houston, Texas; Dr. Lloyd J. Netto, West Palm Beach, Florida; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. F. Walter Carruthers, Little Rock, Arkansas.
Vice-Chairman—Dr. Guy W. Leadbetter, Washington, D. C.
Secretary—Dr. Winthrop M. Phelps, Baltimore, Maryland.

The Section then adjourned *sine die*.

SECTION ON GYNECOLOGY

Officers

Chairman—Dr. John F. Lucas, Greenwood, Mississippi.
Vice-Chairman—Dr. E. C. Hamblen, Durham, North Carolina.
Secretary—Dr. W. O. Johnson, Louisville, Kentucky.

Wednesday, November 13, 9:00 a. m.

The Section met in the Kentucky Hotel, Georgian Room, Louisville, Kentucky, and was called to order by the Chairman, Dr. John F. Lucas, Greenwood, Mississippi, who read his Chairman's Address entitled "Management of Pelvic Infections."

Paper by Dr. Robert A. Kimbrough, Jr., Philadelphia, Pennsylvania, entitled "The Treatment of Uterine Prolapse," was read by the Secretary, Dr. W. O. Johnson, Louisville, Kentucky, in the absence of Dr. Kimbrough.

The Chairman appointed the following Nominating Committee: Dr. James R. Bloss, Huntington, West Virginia; Dr. M. Y. Dabney, Birmingham, Alabama; and Dr. Ivan M. Proctor, Raleigh, North Carolina.

Dr. Oren Moore, Charlotte, North Carolina, read a paper entitled "Congenital Anomalies in Female Genitalia with Operation for Bicornuate Uterus" (Lantern Slides), which was discussed by Dr. Ivan M. Proctor, Raleigh, North Carolina; Dr. M. Y. Dabney, Birmingham, Alabama; Dr. Phil C. Schreier, Memphis, Tennessee; Dr. Joseph W. Kelso, Oklahoma City, Oklahoma; Dr. Henry J. Langston, Danville, Virginia; Dr. Lawrence R. Wharton, Baltimore, Maryland; Dr. Robert E. Seibels, Columbia, South Carolina; and in closing by the essayist.

Dr. John E. Hobbs, St. Louis, Missouri, read a paper entitled "Endometriosis of the Lungs: Experimental and Clinical Study" (Lantern Slides), which was discussed by Dr. Guy S. McClellan, Nashville, Tennessee; Dr. Emil Novak, Baltimore, Maryland; and in closing by the essayist.

Dr. Robert B. Greenblatt, Augusta, Georgia, read a paper entitled "The Gonadotropins: An Experimental and Clinical Study" (Lantern Slides), which was discussed by Dr. Gilbert F. Douglas, Birmingham, Alabama; Dr. Lawrence R. Wharton, Baltimore, Maryland; and in closing by the essayist.

Dr. Wilson Searight, Memphis, Tennessee, read a paper on "Sarcoma of the Uterus," which was discussed by Dr. Emil Novak, Baltimore, Maryland, and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. E. C. Hamblen, Durham, North Carolina.
Vice-Chairman—Dr. W. O. Johnson, Louisville, Kentucky.
Secretary—Dr. John T. Sanders, New Orleans, Louisiana.

The Section then adjourned until 2:00 p. m. Thursday for a joint session with the Section on Obstetrics (see minutes of Section on Obstetrics).

SECTION ON OBSTETRICS

Officers

Chairman—Dr. Robert M. Anderson, Shawnee, Oklahoma.
Vice-Chairman—Dr. Joseph W. Reddoch, New Orleans, Louisiana.
Secretary—Dr. R. A. White, Asheville, North Carolina.

Wednesday, November 13, 2:00 p. m.

The Section met in the Kentucky Hotel, Georgian Room, Louisville, Kentucky, and was called to order by the Chairman, Dr. Robert M. Anderson, Shawnee, Oklahoma, who read his Chairman's Address entitled "Centuries of Progress in Obstetrics."

Dr. Edward L. Cornell, Chicago, Illinois, read a paper entitled "Treatment of Common Complications of Pregnancy."

Dr. Rupert E. Arnell, New Orleans, Louisiana, read a paper entitled "Manual Removal of the Placenta" (Lantern Slides).

Dr. J. Dechert Guess, Greenville, South Carolina, read a paper entitled "Management of the Third Stage of Labor."

Papers by Dr. Arnell and Dr. Guess were discussed by Dr. Thomas B. Sellers, New Orleans, Louisiana; Dr. James R. Garber, Birmingham, Alabama; Dr. Wm. T. McConnell, Louisville, Kentucky; Dr. Williamson Z. Bradford, Charlotte, North Carolina; Dr. Edward L. Cornell, Chicago, Illinois; Dr. F. O. Plunkett, Lynchburg, Virginia; and in closing by the essayists.

The Chairman appointed the following Nominating Committee: Dr. Milton Smith Lewis, Nashville, Tennessee; Dr. Edward Speidel, Louisville, Kentucky; and Dr. James R. Garber, Birmingham, Alabama.

Dr. Waverly R. Payne, Newport News, Virginia, read a paper entitled "Cesarean Section, with Special Reference to the Lower Segment Operations: An Analysis of 110 Consecutive Cases" (Lantern Slides), which was discussed by Dr. W. Bush Anderson, Nashville, Tennessee; Dr. Edward L. Cornell, Chicago, Illinois; and in closing by the essayist.

Dr. Richard Paddock, St. Louis, Missouri, read a paper entitled "A Test for Pregnancy: Technic and Comparative Results" (Lantern Slides), which was discussed by Dr. Wm. T. McConnell, Louisville, Kentucky, and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Joseph W. Reddoch, New Orleans, Louisiana.
Vice-Chairman—Dr. Robert E. Seibels, Columbia, South Carolina.
Secretary—Dr. R. A. White, Asheville, North Carolina.

The Section then adjourned until 2:00 p. m. Thursday for a joint session with the Section on Gynecology.

Thursday, November 14, 2:00 p. m.

Joint Session, Section on Gynecology and Section on Obstetrics

The Sections met in joint session in the Kentucky Hotel, Georgian Room, Louisville, Kentucky, and was called to order by the Chairman of the Section on Obstetrics, Dr. Anderson, who, with the Chairman of the Section on Gynecology, Dr. Lucas, presided.

Dr. Edward L. Cornell, Chicago, Illinois, presented the subject "Analgesia in Labor," which was followed by questions.

SYMPOSIUM ON UTERINE BLEEDING

"From the Viewpoint of the Obstetrician" (Lantern Slides), by Dr. N. J. Eastman, Baltimore, Maryland.

"From the Viewpoint of the Gynecologist," by Dr. Richard TeLinde, Baltimore, Maryland.

"From the Viewpoint of the Endocrinologist," by Dr. Emil Novak, Baltimore, Maryland.

Symposium was discussed by Dr. Francis M. Massie, Lexington, Kentucky; Dr. Joseph W. Kelso, Oklahoma City, Oklahoma; Dr. Gilbert F. Douglas, Birmingham, Alabama; Dr. Misch Casper, Louisville, Kentucky; and in closing by the essayists.

Paper by Dr. Earl Conway Smith and Dr. D. W. Goldman, New Orleans, Louisiana, entitled "Chorio-epithelioma: A Series of Fifteen Cases with Difficulties in Diagnosis and Management" (Lantern Slides), was read by Dr. Goldman, and was discussed by Dr. Robert B. Greenblatt, Augusta, Georgia; Dr. Emil Novak, Baltimore, Maryland; and in closing by Dr. Goldman.

The Sections then adjourned *sine die*.

SECTION ON UROLOGY

Officers

Chairman—Dr. Rex E. Van Duzen, Dallas, Texas.
Vice-Chairman—Dr. Hubert K. Turley, Memphis, Tennessee.
Secretary—Dr. Grayson Carroll, St. Louis, Missouri.

Wednesday, November 13, 2:00 p. m.

The Section met in the Armory, Room No. 3, Louisville, Kentucky, and was called to order by the Chairman, Dr. Rex E. Van Duzen, Dallas, Texas, who presided.

Dr. Nelse F. Ockerblad, Kansas City, Missouri, read a paper

entitled "Accidents in Renal Surgery" (Lantern Slides), which was discussed by Dr. Harold P. MacDonald, Atlanta, Georgia; Dr. H. McClure Young, Columbia, Missouri; Dr. Ray M. Bobbitt, Huntington, West Virginia; Dr. Austin I. Dodson, Richmond, Virginia; Dr. Berlin B. Nicholson, Parkersburg, West Virginia; and in closing by the essayist.

Paper by Dr. W. Calhoun Stirling and Dr. J. E. Ash, Washington, D. C., entitled "A Clinicopathologic Study of Cystic Lesions of the Urinary Tract," was read by Dr. Stirling, and was discussed by Dr. Jefferson C. Pennington, Nashville, Tennessee; Dr. T. Leon Howard, Denver, Colorado; Dr. Harry M. Spence, Dallas, Texas; Dr. Christian P. Segard, Leonia, New Jersey; and in closing by Dr. Stirling.

The Chairman appointed the following Nominating Committee: Dr. H. King Wade, Hot Springs, Arkansas; Dr. J. Ullman Reaves, Mobile, Alabama; and Dr. Eugene R. Vickery, New Orleans, Louisiana.

SYMPOSIUM ON PROSTATIC HYPERTROPHY

Dr. I. G. Duncan, Memphis, Tennessee, read a paper entitled "The Early Signs, Symptoms and Diagnosis of Prostatic Obstruction."

Dr. Horatio N. Dorman, Washington, D. C., read a paper entitled "The Treatment of Prostatism by Transurethral Resection" (Lantern Slides).

Dr. Burnett W. Wright, Nashville, Tennessee, read a paper entitled "The Choice of Operation in Prostatic Obstruction" (Lantern Slides).

Symposium was discussed by Dr. Louis M. Orr, Orlando, Florida; Dr. J. Hoy Sanford, St. Louis, Missouri; Dr. John E. Dees, Durham, North Carolina; and in closing by the essayists.

A "Free-for-All Hour" was conducted by Dr. T. Leon Howard, Denver, Colorado.

The Section then adjourned until 2:00 p. m. Thursday.

Thursday, November 14, 9:00 a. m.

Joint Session with Section on Pediatrics for a Symposium on Pediatric Urology. See Section on Pediatrics.

Thursday, November 14, 2:00 p. m.

The Section met in the Armory, Room No. 3, Louisville, Kentucky, and was called to order by the Chairman, Dr. Van Duzen, who presided.

Dr. Lloyd G. Lewis, Baltimore, Maryland, read a paper entitled "Vesical Dysfunction from Lesions of the Cauda Equina" (Lantern Slides), which was discussed by Dr. D. K. Rose, St. Louis, Missouri; Dr. Owsley Grant, Louisville, Kentucky; Dr. Nelse F. Ockerblad, Kansas City, Missouri; and in closing by the essayist.

Dr. Erasmus H. Kloman, Baltimore, Maryland, read a paper entitled "Repair of Vesicovaginal Fistulas" (Motion Pictures), which was discussed by Dr. Horatio N. Dorman, Washington, D.C., and in closing by the essayist.

Dr. Rex E. Van Duzen, Dallas, Texas, read his Chairman's Address entitled "The Reaction of the Ureteral Muscle to Antispasmodic Drugs."

Dr. Vincent J. O'Conor, Chicago, Illinois, read a paper entitled "Treatment of Malignant Tumors of the Adult Kidney" (Lantern Slides).

Dr. Edwin P. Alyea, Durham, North Carolina, read a paper entitled "Sulfapyridine and Sulfathiazole Therapy in Urinary Tract Infections" (Lantern Slides), which was discussed by Dr. Ray M. Bobbitt, Huntington, West Virginia; Dr. Grayson Carroll, St. Louis, Missouri; Dr. Lloyd G. Lewis, Baltimore, Maryland; Dr. Edgar G. Ballenger, Atlanta, Georgia; and in closing by the essayist.

Dr. Chester D. Allen, Memphis, Tennessee, read a paper entitled "Fibrin Stones" (Lantern Slides), which was discussed by Dr. Michael K. O'Heeron, Houston, Texas; Dr. Hubert K. Turley, Memphis, Tennessee; Dr. Hamilton W. McKay, Charlotte, North Carolina; and in closing by the essayist.

Dr. Robert Brandt, Augusta, Georgia, read a paper entitled "The Therapy of Lymphogranuloma Venereum" (Lantern Slides), which was discussed by Dr. J. Ullman Reaves, Mobile, Alabama, and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Grayson Carroll, St. Louis, Missouri.
Vice-Chairman—Dr. Edward H. Ray, Lexington, Kentucky.
Secretary—Dr. Austin I. Dodson, Richmond, Virginia.

The Section then adjourned *sine die*.

SECTION ON PROCTOLOGY

Officers

Chairman—Dr. Emmett H. Terrell, Richmond, Virginia.
Vice-Chairman—Dr. Granville S. Hanes, Louisville, Kentucky.
Secretary—Dr. Frederick B. Campbell, Kansas City, Missouri.

Friday, November 15, 9:00 a. m.

The Section met in the Armory, Room No. 2, Louisville, Kentucky, and was called to order by the Chairman, Dr. Emmett H. Terrell, Richmond, Virginia, who presided.

Paper by Dr. Herbert T. Hayes and Dr. Harry B. Burr, Houston, Texas, entitled "Cancer of the Rectum, Sigmoid and Anus: Review of Forty Cases Seen During the Year 1939," was read by Dr. Hayes.

Dr. A. Stephens Graham, Richmond, Virginia, read a paper entitled "Practical Considerations in Cancer of Sigmoid and Rectum."

Papers by Drs. Hayes and Burr, and Dr. Graham were discussed by Dr. Raymond L. Murdoch, Oklahoma City, Oklahoma; Dr. Curtice Rosser, Dallas, Texas; Dr. Louis J. Hirschman, Detroit, Michigan; Dr. H. I. Silvers, Atlantic City, New Jersey; Dr. Granville S. Hanes, Louisville, Kentucky; and in closing by Dr. Hayes and Dr. Graham.

The Chairman appointed the following Nominating Committee: Dr. Curtice Rosser, Dallas, Texas; Dr. Boyd Allen, Little Rock, Arkansas; and William J. Martin, Jr., Louisville, Kentucky.

Dr. Emmett H. Terrell, Richmond, Virginia, read his Chairman's Address entitled "Some Common Errors in Diagnosis and Treatment of Rectal Diseases."

Dr. Harry E. Bacon, Philadelphia, Pennsylvania, read a paper entitled "The Surgical Treatment of Lymphogranulomatous Strictures of the Rectum" (Lantern Slides and Motion Pictures), which was discussed by Dr. W. J. Martin, Jr., Louisville, Kentucky; Dr. Malcolm Barnes, Louisville, Kentucky; Dr. Rufus C. Alley, Lexington, Kentucky; Dr. Herbert T. Hayes, Houston, Texas; Dr. Curtice Rosser, Dallas, Texas; and in closing by the essayist.

Dr. John L. Jelks, Memphis, Tennessee, read a paper entitled "Fistulectomy," which was discussed by Dr. Granville S. Hanes, Louisville, Kentucky; Dr. Marion C. Pruitt, Atlanta, Georgia; Dr. Clement L. Martin, Chicago, Illinois; and in closing by the essayist.

Dr. Maurice Lescale, New Orleans, Louisiana, read a paper entitled "Local Anesthesia in Anorectal Surgery," which was discussed by Dr. Howard B. Williams, Birmingham, Alabama; Dr. Frederick B. Campbell, Kansas City, Missouri; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Frederick B. Campbell, Kansas City, Missouri.
Vice-Chairman—Dr. Maurice Lescale, New Orleans, Louisiana.
Secretary—Dr. W. K. McIntyre, St. Louis, Missouri.

The Section then adjourned *sine die*.

SECTION ON RAILWAY SURGERY

Officers

Chairman—Dr. Edgar F. Fincher, Atlanta, Georgia.
Secretary—Dr. J. J. Brandabur, Huntington, West Virginia.

Wednesday, November 13, 9:00 a. m.

The Section met in the Armory, Room No. 1, Louisville, Kentucky, and was called to order by the Chairman, Dr. Edgar F. Fincher, Atlanta, Georgia, who read his Chairman's Address entitled "Extensive Frontal Injuries."

Dr. W. Carl Kappes, Huntington, West Virginia, read a paper entitled "Nodular Goiter" (Motion Pictures), which was discussed by Dr. R. Arnold Griswold, Louisville, Kentucky, and in closing by the essayist.

Dr. Duncan Eve, Nashville, Tennessee, read a paper entitled "The Treatment of Fractures of the Shaft of the Humerus" (Lantern Slides), which was discussed by Dr. H. Earle Conwell, Birmingham, Alabama; Dr. J. Albert Key, St. Louis, Missouri; Dr. F. Walter Carruthers, Little Rock, Arkansas; Dr. R. Arnold Griswold, Louisville, Kentucky; Dr. Lloyd J. Netto, West Palm Beach, Florida; and in closing by the essayist.

Dr. Osborne T. Brazelton, Princeton, Indiana, read a paper entitled "Fractures of the Pelvis," which was discussed by Dr. Duncan Eve, Nashville, Tennessee; Dr. F. Walter Carruthers, Little Rock, Arkansas; Dr. August F. Knoefel, Terre Haute, Indiana; Dr. H. Earle Conwell, Birmingham, Alabama; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. William Hibbitts, Texarkana, Texas; Dr. J. D. Martin, Atlanta, Georgia; and Dr. C. A. Waring, Washington, D. C.

Dr. Robert Randolph Jones, Jr., Durham, North Carolina, read a paper entitled "The Management of Long-Standing Contractures of the Upper Extremities Due to Burns," which was discussed by Dr. W. Milton Adams, Memphis, Tennessee; Dr. Neal Owens, New Orleans, Louisiana; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. J. J. Brandabur, Huntington, West Virginia.
Secretary—Dr. Duncan Eve, Nashville, Tennessee.

The Section then adjourned *sine die*.

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

Officers

Chairman—Dr. Harvey B. Searcy, Tuscaloosa, Alabama.
Chairman-Elect—Dr. W. Likely Simpson, Memphis, Tennessee.
Vice-Chairman—Dr. Albert L. Bass, Louisville, Kentucky.
Secretary—Dr. L. Chester McHenry, Oklahoma City, Oklahoma.

Wednesday, November 13, 9:00 a. m.

The Section met in the Kentucky Hotel, Gold Ballroom, Louisville, Kentucky, and was called to order by the Chairman, Dr. Harvey B. Searcy, Tuscaloosa, Alabama.

Paper by Dr. William Thornwall Davis and Dr. Ernest Sheppard, Washington, D. C., entitled "The Interpretation and Evaluation of Tests in Strabismus" (Lantern Slides), was read by Dr. Sheppard, and was discussed by Dr. J. Mason Baird, Atlanta, Georgia; Dr. R. E. Sullivan, Nashville, Tennessee; Dr. A. E. Leggett, Louisville, Kentucky; Dr. E. C. Ellett, Memphis, Tennessee, and in closing by Dr. Sheppard.

Dr. Harvey B. Searcy, Tuscaloosa, Alabama, read his Chairman's Address entitled "History of the Section on Ophthalmology and Otolaryngology of the Southern Medical Association with Recommendations."

A motion was made, duly seconded and carried, that a committee be appointed to consider the recommendations made in the Chairman's Address.

Dr. Maxwell Thomas, Dallas, Texas, read a paper entitled "Recurrent Erosions of the Cornea," which was discussed by Dr. W. M. James, St. Louis, Missouri; Dr. J. Wesley McKinney, Memphis, Tennessee; Dr. F. B. Blackmar, Columbus, Georgia; and in closing by the essayist.

Dr. J. W. Jervey, Jr., Greenville, South Carolina, read a paper entitled "Cornification of the Conjunctiva" (Lantern Slides), which was discussed by Dr. R. O. Rychener, Memphis, Tennessee, and in closing by the essayist.

Dr. Oscar Wilkinson, Washington, D. C., read a paper entitled "The Early Treatment of Squint," which was discussed by Dr. Frank W. Pirkey, Louisville, Kentucky; Dr. Lawrence T. Post, St. Louis, Missouri; and in closing by the essayist.

The Chairman appointed the following Nominating Committee: Dr. Claude T. Wolfe, Louisville, Kentucky; Dr. E. H. Jones, Vicksburg, Mississippi; Dr. Lawrence T. Post, St. Louis, Missouri; Dr. W. R. McKenzie, Baltimore, Maryland; and Dr. W. Likely Simpson, Memphis, Tennessee.

Dr. Phil M. Lewis, Memphis, Tennessee, read a paper entitled "Dangers from Nonspecific Protein Therapy: Report of One Fatal Case," which was discussed by Dr. Wiley R. Buffington, New Orleans, Louisiana; Dr. F. B. Blackmar, Columbus, Georgia; Dr. R. O. Rychener, Memphis, Tennessee; and in closing by the essayist.

The Chairman thanked the local group for the interesting session on Tuesday afternoon.

Dr. F. Maxey Cooper, Oklahoma City, Oklahoma, read a paper entitled "Easier and Safer Procedures in Cataract Extraction" (Motion Pictures), which was discussed by Dr. Bennett Y. Alvis, St. Louis, Missouri; Dr. C. Dwight Townes, Louisville, Kentucky; Dr. Harvey B. Searcy, Tuscaloosa, Alabama; and in closing by the essayist.

The Section then adjourned until 9:00 a. m. Thursday.

Thursday, November 14, 9:00 a. m.

The Section met in the Kentucky Hotel, Gold Ballroom, Louisville, Kentucky, and was called to order by the Chairman, Dr. Searcy, who presided.

Dr. T. Earle Johnson, University, Alabama, read a paper entitled "The Correction of Defective Speech," which was discussed by Dr. John J. Shea, Memphis, Tennesseee, and in closing by the essayist.

Dr. Sanford R. Gifford, Chicago, Illinois, read a paper entitled "The Treatment of Paralytic Strabismus" (Lantern Slides).

Dr. Kate Savage Zerfoss, Nashville, Tennessee, read a paper entitled "Ophthalmological Considerations of Neurosurgical Cases," which was discussed by Dr. Grady E. Clay, Atlanta, Georgia; Dr. Cobb Pilcher, Nashville, Tennessee; Dr. B. Y. Alvis, St. Louis, Missouri; and Dr. Sanford R. Gifford, Chicago, Illinois.

Dr. Edwyn N. Broyles, Baltimore, Maryland, read a paper entitled "Treatment of Laryngeal Papilloma in Children" (Lantern Slides), which was discussed by Dr. Francis E. LeJeune, New Orleans, Louisiana; Dr. Murdock Equen, Atlanta, Georgia; Dr. M. F. Arbuckle, St. Louis, Missouri; and in closing by the essayist.

Dr. Edward H. Campbell, Philadelphia, Pennsylvania, read a paper entitled "Fenestration of the Labyrinth in Chronic Conductive Deafness: An Analysis of Results Obtained" (Lantern Slides).

Dr. Glassell S. Fitz-Hugh, Charlottesville, Virginia, read a paper entitled "Tracheotomy: An Analysis of a Series of One Hundred Consecutive Cases" (Lantern Slides), which was discussed by Dr. Murdock Equen, Atlanta, Georgia.

The Section then adjourned until 2:00 p. m. Thursday.

Thursday, November 14, 2:00 p. m.

The Section met in the Kentucky Hotel, Gold Ballroom, Louisville, Kentucky, and was called to order by the Chairman, Dr. Searcy, who presided.

Dr. M. F. Arbuckle, St. Louis, Missouri, read a paper entitled "A New Combination of Surgery and Radiation Therapy in Pharyngeal Cancer," which was discussed by Dr. Francis E. LeJeune, New Orleans, Louisiana, and in closing by the essayist.

ROUND TABLE SESSION

Dr. Edward H. Campbell, Philadelphia, Pennsylvania, presented the subject "Operative Technic and Indications for Operation in Chronic Conductive Deafness," followed by a question and answer period.

Dr. Sanford R. Gifford, Chicago, Illinois, presented the subject "The Treatment of Some Corneal Diseases" (Lantern Slides), followed by a question and answer period.

The Section then adjourned until 9:00 a. m. Friday.

Friday, November 15, 9:00 a. m.

The Section met in the Kentucky Hotel, Gold Ballroom, Louisville, Kentucky, and was called to order by the Chairman, Dr. Searcy, who presided.

Dr. J. Hallock Moore, Huntington, West Virginia, read a paper entitled "A Resume of Conservative Sinus Management and Some Recommendations Concerning Same."

Dr. Bernard J. McMahon, St. Louis, Missouri, read a paper entitled "Abuses of Nasal Medication."

Papers of Dr. Moore and Dr. McMahon were discussed by Dr. Jos. D. Heitger, Louisville, Kentucky; Dr. William A. Wagner, New Orleans, Louisiana; Dr. Albert L. Bass, Louisville, Kentucky; Dr. J. W. Jervey, Jr., Greenville, S. C.; Dr. Harvey B. Searcy, Tuscaloosa, Alabama; Dr. John J. Shea, Memphis, Tennessee; and Dr. W. R. McKenzie, Baltimore, Maryland.

Dr. Chas. D. Blassingame, Memphis, Tennessee, read a paper entitled "The Etiology of Gangrene Associated with Deep Neck Infections," which was discussed by Dr. Wm. R. McKenzie, Baltimore, Maryland; Dr. Albert L. Bass, Louisville, Kentucky; and in closing by the essayist.

Dr. James S. Snow, Birmingham, Alabama, read a paper entitled "Tertiary Syphilids of the Nose" (Lantern Slides).

Paper by Dr. Paul L. Mahoney and Dr. John S. Agar, Little Rock, Arkansas, entitled "Headaches," was read by Dr. Agar, and was discussed by Dr. Taylor S. Burgess, Atlanta, Georgia, and in closing by Dr. Agar.

Dr. Van Dyke Hagaman, Jackson, Mississippi, read a paper entitled "Laryngotracheobronchitis" (Lantern Slides), which was discussed by Dr. W. Likely Simpson, Memphis, Tennessee; Dr. Murdock Equen, Atlanta, Georgia; Dr. L. Chester McHenry, Oklahoma City, Oklahoma; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. W. Likely Simpson, Memphis, Tennessee.
Chairman-Elect—Dr. L. Chester McHenry, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. Kate Savage Zerfoss, Nashville, Tennessee.
Secretary—Dr. J. W. Jervey, Jr., Greenville, South Carolina.

The Section then adjourned *sine die*.

SECTION ON ANESTHESIA

Officers

Chairman—Dr. R. Douglas Sanders, Louisville, Kentucky.
Vice-Chairman—Dr. George S. Mechling, Oklahoma City, Oklahoma.
Secretary—Dr. Merrill C. Beck, New Orleans, Louisiana.

Thursday, November 14, 9:00 a. m.

The Section met in the Kentucky Hotel, Parlor B, Louisville, Kentucky, and was called to order by the Chairman, Dr. R. Douglas Sanders, Louisville, Kentucky, who read his Chairman's Address, entitled "Fields for Consultation Related to Anesthesia" (Lantern Slides).

Dr. Russell F. Bonham, Houston, Texas, read a paper entitled "Further Observations of the Allergy of Cyclopropane," which was discussed by Dr. C. W. Hoeflich, Houston, Texas; Dr. Frank W. Ratcliff, Lafayette, Indiana; Dr. Fred E. Woodson, Tulsa, Oklahoma; Dr. S. Hayes Gailbreath, Louisville, Kentucky; and in closing by the essayist.

Dr. Edward B. Tuohy, Rochester, Minnesota, read a paper entitled "The Clinical Use of Intravenous Anesthesia Alone and in Combination with Other Anesthetics: A Method of Anesthesia Eliminating the Hazards of Fire and Explosion" (Lantern Slides), which was discussed by Dr. S. A. Peoples, Tuscaloosa, Alabama; Dr. C. W. Hoeflich, Houston, Texas; Dr. Stephen E. Williams, Chippewa Falls, Wisconsin; Dr. R. Douglas Sanders, Louisville, Kentucky; Dr. Fred F. Rudder, Atlanta, Georgia; Dr. A. L. Schwartz, Cincinnati, Ohio; Dr. Merrill C. Beck, New Orleans, Louisiana; and in closing by the essayist.

Paper by Dr. Charles B. Odom and Dr. M. C. Kolczun, New Orleans, Louisiana, entitled "The Treatment of Idiopathic Sciatica by Epidural Injection of Almond Oil and Novocaine" (Motion Pictures), was read by Dr. Odom, and was discussed by Dr. P. K. Knoefel, Louisville, Kentucky; Dr. Stephen E. Williams, Chippewa Falls, Wisconsin; Dr. S. A. Peoples, Tuscaloosa, Alabama; Dr. Hope Snider Ross, Enid, Oklahoma; and in closing by Dr. Odom.

Dr. Fred E. Woodson, Tulsa, Oklahoma, read a paper entitled "Outline for Teaching Anesthesia to Physicians of Small Communities," which was discussed by Dr. R. Douglas Sanders, Louisville, Kentucky.

The Section then adjourned until 9:00 a. m. Friday.

Friday, November 15, 9:00 a. m.

The Section met in the Kentucky Hotel, Parlor B, Louisville, Kentucky, and was called to order by the Chairman, Dr. Sanders, who presided.

The Chairman appointed the following Nominating Committee: Dr. C. W. Hoeflich, Houston, Texas; Dr. Russell F. Bonham, Houston, Texas; and Dr. Fred E. Woodson, Tulsa, Oklahoma.

Dr. Arthur C. Ambler, Asheville, North Carolina, read a paper entitled "Cyclopropane and Avertin Anesthesia at Western North Carolina Sanatorium," which was discussed by Dr. Joseph B. Bogan, Washington, D. C.; Dr. Russell F. Bonham, Houston, Texas; Dr. Alfred Habeeb, Fairfield, Alabama; Dr. R. Douglas Sanders, Louisville, Kentucky; and in closing by the essayist.

Dr. Hope Snider Ross, Enid, Oklahoma, read a paper entitled "Some Problems of Deep Anesthesia," which was discussed by Dr. Chapman Reynolds, New Orleans, Louisiana; Dr. Merrill C. Beck, New Orleans, Louisiana; Dr. Alfred Habeeb, Fairfield, Alabama; Dr. A. A. Brindley, Toledo, Ohio; Dr. C. W. Hoeflich, Houston, Texas; and in closing by the essayist.

Dr. Donald H. Stubbs, Washington, D. C., read a paper entitled "Anesthesia for Intracranial Surgery," which was discussed by Dr. Exum Walker, Atlanta, Georgia; Dr. Joseph B. Bogan, Washington, D. C.; and in closing by the essayist.

Dr. William L. Sibley, Roanoke, Virginia, read a paper entitled "Intravenous Anesthesia Combined with Regional and Spinal Anesthesia" (Lantern Slides), which was discussed by Dr. Merrill C. Beck, New Orleans, Louisiana; Dr. Russell F. Bonham, Houston, Texas; and in closing by the essayist.

Dr. Chapman Reynolds, New Orleans, Louisiana, read a paper entitled "Anesthetics at Increased Pressure," which was discussed by Dr. P. K. Knoefel, Louisville, Kentucky; Dr. Dougal M. Dollar, Louisville, Kentucky; Dr. R. Douglas Sanders, Louisville, Kentucky; Dr. C. W. Hoeflich, Houston, Texas; and in closing by the essayist.

The Secretary, Dr. Merrill C. Beck, New Orleans, Louisiana, read the minutes of the November, 1939, meeting, which were approved as read.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. George S. Mechling, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. Russell F. Bonham, Houston, Texas.
Secretary—Dr. Merrill C. Beck, New Orleans, Louisiana.

It was the desire of the Section to have at least one paper in the General Clinical Session dealing with anesthesia; and as a means of having more surgeons attend the sessions of the Section to have a surgeon discuss each paper read before the Section.

It was voted that the Chairman appoint Dr. Fred E. Woodson, Tulsa, Oklahoma, as a committee of one, other members to be added if needed after the first year, to serve for a period of five years to carry out the suggestions made in his paper, "Outline for Teaching Anesthesia to Physicians of Small Communities."

The Section then adjourned *sine die*.

SECTION ON MEDICAL EDUCATION AND HOSPITAL TRAINING

Officers

Chairman—Dr. Robert U. Patterson, Oklahoma City, Oklahoma.
Vice-Chairman—Dr. O. W. Hyman, Memphis, Tennessee.
Secretary—Dr. Harvey B. Haag, Richmond, Virginia.

Wednesday, November 13, 9:00 a. m.

The Section met in the Armory, Room No. 4, Louisville, Kentucky, and was called to order by the Chairman, Dr. Robert U. Patterson, Oklahoma City, Oklahoma, who read his Chairman's Address entitled "Modern Standards in Medical Education."

Dr. Russell H. Oppenheimer, Emory University, Georgia, asked that the privilege of the floor be granted to Dr. Fred C. Zapffe, Secretary, Association of American Medical Colleges, Chicago, Illinois. The request was granted.

Dr. Fred J. Wampler, Professor of Preventive Medicine, Medical College of Virginia, Richmond, Virginia, read a paper entitled "The Teaching of Industrial Health" (Lantern Slides).

The Chairman, Dr. Patterson, appointed the following Nominating Committee: Dr. M. Pinson Neal, Columbia, Missouri; Dr. Fred J. Wampler, Richmond, Virginia; and Dr. R. H. Rigdon, Memphis, Tennessee.

Dr. T. Lyle Hazlett, Medical Director, Westinghouse Manufacturing Company, Pittsburgh, Pennsylvania, read a paper entitled "The Practice of Industrial Health" (Lantern Slides), which was discussed by Dr. Harry C. Schmeisser, Memphis, Tennessee, and in closing by the essayist.

Dr. John W. Spies, Dean, University of Texas Medical Branch, Galveston, Texas, read a paper entitled "Preventive Medicine and Public Health in the Medical School Curriculum," which was discussed by Dr. Fred C. Zapffe, Chicago, Illinois; Dr. S. P. Kohler, Little Rock, Arkansas; Dr. Robert U. Patterson, Oklahoma City, Oklahoma; and in closing by the essayist.

Dr. C. Rufus Rorem, Director, Commission on Hospital Service, American Hospital Association, Chicago, Illinois, read a paper entitled "Group Hospitalization," which was discussed by Dr. Ira H. Lockwood, Kansas City, Missouri, and in closing by the essayist.

Dr. Russell H. Oppenheimer, Dean, Emory University School of Medicine, Emory University, Georgia, read a paper entitled "Internship: A Hospital and Medical School Program," which was discussed by Dr. Harry C. Schmeisser, Memphis, Tennessee; Dr. Robert U. Patterson, Oklahoma City, Oklahoma; Dr. John W. Spies, Galveston, Texas; Dr. Beverly Douglas, Nashville Tennessee; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Harvey B. Haag, Richmond, Virginia.
Vice-Chairman—Dr. S. I. Kornhauser, Louisville, Kentucky.
Secretary—Dr. John W. Spies, Galveston, Texas.

The Section then adjourned *sine die*.

SECTION ON PUBLIC HEALTH

Officers

Chairman—Dr. W. B. Grayson, Little Rock, Arkansas.
Vice-Chairman—Dr. L. M. Graves, Memphis, Tennessee.
Secretary—Dr. Henry C. Ricks, Jackson, Mississippi.

Wednesday, November 13, 9:00 a. m.

A clinical session, a joint session with the Section on Public Health, met in the Armory, Room No. 2, Louisville, Kentucky, and was called to order by the President, Dr. Arthur T. McCormack, State Health Officer of Kentucky, who presided (see page 117 for minutes of the joint session).

Thursday, November 14, 9:00 a. m.

The Section met in the Henry Clay Hotel, Ballroom, Louisville, Kentucky, and was called to order by the Chairman, Dr. W. B. Grayson, Little Rock, Arkansas who read his Chairman's Address, entitled "Housing Facilities for Local Health Units" (Lantern Slides).

Paper by Dr. Paul T. Erickson and Dr. D. V. Galloway, Jackson, Mississippi, entitled "The Syphilis Control Program in Mississippi" (Lantern Slides), was read by Dr. Galloway and was discussed by Dr. John R. Heller, Jr., New Orleans, Louisiana; Dr. C. B. Tucker, Nashville, Tennessee; Dr. W. S. Leathers, Nashville, Tennessee; Dr. W. K. Sharp, Jr., Washington, D. C.; Dr. J. A. Hayne, Columbia, South Carolina; Dr. A. L. Gray, Jackson, Mississippi; and in closing by Dr. Galloway.

Dr. Harry S. Mustard, New York, New York, read a paper entitled "The Education of Public Health Personnel," which was discussed by Dr. Felix J. Underwood, Jackson, Mississippi; Miss Mary J. Dunn, Washington, D. C.; Dr. M. V. Ziegler, Washington, D. C.; Dr. John A. Ferrell, New York, New York; Dr. Carl V. Reynolds, Raleigh, North Carolina; and in closing by the essayist.

The Nominating Committee reported the following nominations for Section officers, the nominees being duly elected by vote of the Section:

Chairman—Dr. Henry C. Ricks, Jackson, Mississippi.
Vice-Chairman—Dr. Harry F. Parker, Jefferson City, Missouri.
Secretary—Dr. Hugh R. Leavell, Louisville, Kentucky.

Dr. John S. Harter, Sanatorium, Mississippi, read a paper entitled "The Value of Collapse Therapy in the Tuberculosis Program of Mississippi," (Lantern Slides) which was discussed by Dr. J. A. Hayne, Columbia, South Carolina; Dr. F. J. Underwood, Jackson, Mississippi; Dr. F. W. Caudill, Louisville, Kentucky; and in closing by the essayist.

Dr. George M. Cooper, Raleigh, North Carolina, read a paper entitled "Ten Years in Maternity and Infancy Work in North Carolina," which was discussed by Dr. Robert W. Ball, Columbia, South Carolina; Dr. J. H. M. Knox, Baltimore, Maryland; and in closing by the essayist.

A paper by Dr. James K. Gray, Tahlequah, Oklahoma, and Dr. D. B. McMullen, Oklahoma City, Oklahoma, entitled "The Incidence of Intestinal Parasites in School Children of Eastern Oklahoma," was read by Dr. McMullen, and was discussed by Dr. John Y. Battenfield, Oklahoma City, Oklahoma, and Dr. Henry E. Meleney, Nashville, Tennessee.

The Section then adjourned *sine die*.

AMERICAN PUBLIC HEALTH ASSOCIATION
Southern Branch

Meeting conjointly with Southern Medical Association

Officers

President—Dr. G. Foard McGinnes, Memphis, Tennessee.
First Vice-President—Dr. C. V. Reynolds, Raleigh, North Carolina.
Second Vice-President—Mr. James H. Stephens, Columbia, South Carolina.
Third Vice-President—Miss Ruth Heintzelman, Washington, D. C.
Secretary-Treasurer—Dr. P. E. Blackerby, Louisville, Kentucky.

Tuesday, November 12, 12:30 noon

The meeting of the Governing Council was held as a luncheon at the Brown Hotel, Louisville, Kentucky, Dr. G. Foard McGinnes, President, presiding.

Tuesday, November 12, 2:00 p. m.

The ninth annual General Scientific Session convened in the Henry Clay Hotel, Ballroom, Louisville, and was called to order by the President, Dr. G. Foard McGinnes, who presided.

Mr. E. S. Tisdale, Sanitary Engineer, Ohio River Pollution Survey, Cincinnati, Ohio, read a paper entitled "The Ohio River Pollution Survey in Relation to Pollution Problems in the Southern States and Lower Ohio River Basin," which was discussed by Mr. Kenneth S. Watson, Charleston, West Virginia; Mr. F. C. Dugan, Louisville, Kentucky; and in closing by the essayist.

Dr. Reginald Atwater, Executive Secretary, American Public Health Association, New York, New York, brought greetings from that body, offering their fullest cooperation.

The President appointed the following Nominating Committee: Dr. Felix J. Underwood, Jackson, Mississippi; Dr. J. N. Baker, Montgomery, Alabama; and Dr. W. K. Sharp, Washington, D. C.

Dr. G. Foard McGinnes, Memphis, Tennessee, read his President's Address entitled "The Control of Prostitution in Memphis."

Dr. E. L. Bishop, Director of Health, Tennessee Valley Authority, Chattanooga, Tennessee, read a paper entitled "Health and Safety Services of the Tennessee Valley Authority," which was discussed by Dr. J. N. Baker, Montgomery, Alabama; Dr. P. E. Blackerby, Louisville, Kentucky; Dr. Felix J. Underwood, Jackson, Mississippi; Dr. John A. Ferrell, New York, New York; and in closing by the essayist.

Dr. K. W. Cosgrove, Consulting Ophthalmologist, Arkansas State Board of Health, Little Rock, Arkansas, read a paper entitled "Trachoma Problems in Arkansas," which was discussed by Dr. Chas. E. Rice, Washington, D. C.; Dr. W. B. Grayson, Little Rock, Arkansas; and in closing by the essayist.

Paper by Dr. Frank L. Roberts, Professor of Preventive Medicine, University of Tennessee, Memphis, Tennessee, and Dr. Byron Hill, Supervisor of Examinations, Tennessee Civil Service, Nashville, Tennessee, entitled "The Merit System in Relationship to Public Health Personnel," was read by Dr. Roberts, and was discussed by Dr. Felix J. Underwood, Jackson, Mississippi.

The Association then adjourned until 2:00 p. m. Wednesday.

Wednesday, November 13, 2:00 p. m.

Hotel, Ballroom, Louisville, and was called to order by the Presi-

The General Scientific Session convened in the Henry Clay dent, Dr. McGinnes, who presided.

Dr. Rogers Deakin, St. Louis, Missouri, read a paper entitled "Sulfonamide Therapy in Male Gonorrhea: A Comparative Study," which was discussed by Dr. F. W. Caudill, Louisville, Kentucky; Dr. N. B. Hon, Washington, D. C.; Dr. John R. Heller, Jr., Washington, D. C.; and in closing by the essayist.

Dr. W. S. Leathers, President, American Public Health Association, Nashville, Tennessee, gave a few words of greeting.

Paper by Miss Mary J. Dunn, Public Health Nursing Consultant, U. S. Public Health Service, Washington, D. C., and Miss Pearl McIver, Senior Public Health Nursing Consultant, Washington, D. C., entitled "The Importance of Public Health Nursing Supervision in Public Health Service," was read by Miss Dunn, and was discussed by Mrs. Laurene Fisher, Charleston, West Virginia; Miss Margaret L. East, Louisville, Kentucky; Dr. J. H. Knox, Jr., Baltimore, Maryland; Dr. John A. Ferrell, New York, New York; Dr. L. M. Graves, Memphis, Tennessee; and in closing by Miss Dunn.

Dr. W. D. Burkhalter, Associate in County Organization, Department of Public Health, Montgomery, Alabama, read a paper entitled "Relationship of Public Health Activities to the Real Need," which was discussed by Dr. C. V. Reynolds, Raleigh, North Carolina; Dr. W. S. Leathers, Nashville, Tennessee; Dr. Grace Dodge, Montgomery, Alabama; Dr. M. V. Ziegler, Washington, D. C.; and in closing by the essayist.

Dr. Edwin F. Daily, Director, Maternal and Child Health Division, Children's Bureau, Washington, D. C., read a paper entitled "Medical and Hospital Care Provided Under Maternal and Child Health Programs," which was discussed by Dr. R. W. Ball, Columbia, South Carolina; Dr. J. H. Knox, Jr., Baltimore, Maryland; Dr. Robert E. Seibels, Columbia, South Carolina; Dr. J. N. Baker, Montgomery, Alabama; and in closing by the essayist.

The Nominating Committee reported the following nominations for officers, the nominees being duly elected by vote of the Association:

President—Dr. Felix J. Underwood, Jackson, Mississippi.
First Vice-President—Dr. B. F. Wyman, Columbia, South Carolina.
Second Vice-President—Mr. Richard Messer, Richmond, Virginia.
Third Vice-President—Miss Pearl Barclay, Montgomery, Alabama.
Secretary-Treasurer—Dr. P. E. Blackerby, Louisville, Kentucky.

A rising vote of thanks was given to the President, Vice-Presidents and Secretary for their effective work during the past year.

Dr. Carl M. Gambill, Assistant Director of County Health Work, State Department of Health, Louisville, Kentucky, read a paper entitled "The Relative Value of Award Programs in Public Health," which was discussed by Dr. Robert H. Hutcheson, Nashville, Tennessee; Dr. G. G. Lunsford, Atlanta, Georgia; Dr. P. E. Blackerby, Louisville, Kentucky; Dr. L. M. Graves, Memphis, Tennessee; and in closing by the essayist.

The Association then adjourned *sine die*.

Tuesday, November 12, 10:00 a. m.

The Public Health Nursing Section met in the Henry Clay Hotel, Ballroom, Louisville, Kentucky, and was called to order by the Vice-Chairman, (Mrs.) Ruth C. George, who presided. The minutes of the last meeting were read by the secretary and approved.

(Miss) Nancy Cummings, R. N., Supervisor of Nurses, Fayette County Health Department, Lexington, Kentucky, discussed the subject "The Use of a Field Experience Center in the Development of Public Health Nursing—Its Use as an Orientation Center."

(Mrs.) Hettie Moore Maxwell, Director of Nursing Service, Experience Center, Morrilton, Arkansas, presented the subject "The Use of a Field Experience Center in the Development of Public Health Nursing—Its Use as Refresher Experience Center," which was discussed by (Miss) Margaret Wohlegemuth, R. N., Supervisor of Public Health Nursing, Anne Arundel County, Annapolis, Maryland; Dr. John A. Ferrell, Rockefeller Foundation, New York, New York; Dr. M. V. Ziegler, U. S. Public Health Service, Washington, D. C.; Dr. J. H. Knox, Jr., State Board of Health, Baltimore, Maryland; Dr. Felix J. Underwood, State Health Officer, Jackson, Mississippi; Dr. J. A. Milne, Jackson, Mississippi; Dr. B. F. Wyman, Columbia, South Carolina; (Miss) Margaret L. East, Louisville, Kentucky; and Mrs. DeLas, of Mississippi.

Mrs. Applegate, Secretary of the Kentucky State Nurses' Association, Louisville, extended an invitation to the group to visit their headquarters in the Henry Clay Hotel.

The Nominating Committee reported the following nominations for officers, the nominees being duly elected by vote of the Section: Chairman, Miss Aurelia Potts, Director of Public Health Nursing, Peabody College, Nashville, Tennessee; Vice-Chairman, Mrs. Laurene Fisher, Director of Public Health Nursing, State Department of Health, Charleston, West Virginia; and Secretary, Miss Margaret Denham, Richmond, Virginia.

The Section then adjourned *sine die*.

Tuesday, November 12

The Sanitary Engineers' and Sanitation Officers' Section met in the Henry Clay Hotel, Room B, Louisville, Kentucky, for the morning session, beginning at 10:00 a. m., this following a Section Dinner on Monday, November 11, at the Brown Hotel.

Mr. L. M. Clarkson, Director of Public Health Engineering, Department of Public Health, Atlanta, Georgia, read a paper entitled "Public Health Mapping," which was discussed by Mr. C. L. White, Jr., Raleigh, North Carolina; and Mr. W. H. Grisham, Memphis, Tennessee.

Mr. B. E. Payne, Assistant Engineer, Louisville Water Company, Louisville, Kentucky, read a paper entitled "Flood Protection of Water Works," which was discussed by Mr. L. M. Fisher, Washington, D. C.

Paper by Mr. J. Frank Field, Engineer on Milk Sanitation, Division of Sanitary Engineering, Tennessee Department of Public Health, Nashville, Tennessee, entitled "Some Problems in Milk Control," in the absence of Mr. Field was read, and was discussed by Mrs. Sarah V. Dugan, Louisville, Kentucky.

At a business session the following officers were elected: Chairman, Mr. W. Scott Johnson, Jefferson City, Missouri; Vice-Chairman, Mr. C. Heard Field, Savannah, Georgia; and Secretary-Treasurer, Mr. J. L. Robertson, Jr., Memphis, Tennessee.

The Section then adjourned *sine die*.

NATIONAL MALARIA COMMITTEE

Meeting conjointly with the Southern Medical Association

Officers

Honorary Chairman—Dr. L. O. Howard, Washington, D. C.
Chairman—(Mr.) W. G. Stromquist, Chattanooga, Tennessee.
Chairman-Elect—Dr. J. N. Baker, Montgomery, Alabama.
Vice-Chairman—(Mr.) John H. O'Neill, New Orleans, Louisiana.
Secretary-Treasurer—Dr. Mark F. Boyd, Tallahassee, Florida.

Wednesday, November 13, 9:00 a. m.

The business meeting of the twenty-third annual session of the National Malaria Committee was held in a parlor of the Seelbach Hotel, Louisville, Kentucky, and was called to order by the Chairman, Mr. W. G. Stromquist, Chattanooga, Tennessee, who presided.

The minutes of the 1939 meeting held in Memphis, Tennessee, were approved as published in the January, 1940, issue of the Southern Medical Journal.

The Chairman appointed the following temporary subcommittees, viz: Auditing—Dr. O. M. Derryberry, Wilson Dam, Alabama; Mr. Frank B. Wood, Montgomery, Alabama; and Mr. David Lee, Pensacola, Florida. Nominating—Dr. J. E. Elmendorf, Pensacola, Florida; Mr. H. W. van Hovenberg, Mt. Pleasant, Texas; and Mr. N. H. Rector, Jackson, Mississippi.

The Secretary-Treasurer reported 190 active members and 20 honorary members, a total of 210; and cash receipts of $311.09; added to last year's balance of $111.12, a total of $422.21, with disbursements of $207.94, leaving a balance on hand of $214.27. The financial report was referred to the Auditing Committee.

The Secretary reported that he was advised under date of January 22, 1940 by Dr. F. R. Moulton, Secretary of the American Association for the Advancement of Science, that the National Malaria Committee had been unanimously accepted as an affiliated society, with right of representation on their Council, by one member who is concurrently a Fellow of the A. A. A. S. The Subcommittee on Resolutions was instructed to prepare an amendment to the Constitution of the Committee providing for the addition of this Council representative to the list of officers, and, pending the adoption of such an amendment, to authorize the Chairman to appoint such a representative.

Reports were received from the following standing subcommittees and ordered filed, viz: (a) Entomology by Mr. G. H. Bradley, Orlando, Florida; (b) Statistics by Dr. J. E. Elmendorf, Pensacola, Florida; (c) Engineering by Mr. C. C. Kiker, Wilson Dam, Alabama; (d) Industrial Relations by Mr. H. W. van Hovenberg, Mt. Pleasant, Texas; (e) Epidemiology by Dr. L. T. Coggeshall, New York, N. Y., and (f) Malaria Prevention Activities by Mr. George Hazlehurst, Montgomery, Alabama, and Dr. Justin Andrews, Atlanta, Georgia.

Mr. N. H. Rector, Jackson, Mississippi, presented the report of the Special Policy Subcommittee appointed at the 1939 Memphis meeting to study several important problems facing the organization. After consideration of the report by sections, a series of motions was adopted, referring the several recommendations except as noted below, to the favorable consideration of the Subcommittee on Resolutions, for the preparation of a series of amendments to the constitution to implement these changes. The amendments, in accordance with constitutional procedure, to be finally voted upon at the 1941 meeting. The exception was a recommendation that the name of the organization be changed to the National Malaria Society, rather than the name suggested by the subcommittee.

A motion was adopted instructing the resolutions subcommittee to prepare an amendment to the constitution creating the class of corporate membership with the same dues as for active membership.

A motion was adopted authorizing the appointment of a special subcommittee to confer with a similar representation from the Southern Branch of the American Public Health Association to ascertain whether it may be practicable to integrate the sessions of the two organizations.

The Subcommittee on Auditing reported the approval of the report of the Secretary-Treasurer, and recommended an honorarium of $50.00 to his secretary. The report was adopted.

The Subcommittee on Nominations offered the following nominations, the Secretary being instructed to cast the unanimous vote for the nominees:

Honorary Chairman—Dr. L. O. Howard, Washington, D. C.
Chairman—Dr. J. N. Baker, Montgomery, Alabama.
Chairman-Elect—(Mr.) John H. O'Neill, New Orleans, La.
Vice-Chairman—(Mr.) W. H. W. Komp, Ancon, Canal Zone.
Secretary-Treasurer—Dr. Mark F. Boyd, Tallahassee, Florida.

The Committee then adjourned until 2:00 p. m. Thursday.

Thursday, November 14, 2:00 p. m.

The National Malaria Committee convened in joint session with the American Society of Tropical Medicine in the Rathskeller of the Seelbach Hotel, Louisville, Kentucky, Mr. W. G. Stromquist, Chairman of the National Malaria Committee, and Dr. L. L. Williams, President of the American Society of Tropical Medicine, presiding.

Dr. John Maier, International Health Division of the Rockefeller Foundation, New York, N. Y., read a paper entitled "The Chemotherapeutic Activity of Synthetic Antimalarias" (Lantern Slides).

Paper by Dr. Martin D. Young, Dr. Sol. B. McLendon and Dr. G. Robert Coatney, U. S. Public Health Service, South Carolina State Hospital, Columbia, South Carolina, entitled "Studies on Induced Quartan Malaria in Negro Paretics: III. Clinical Observations," was read by Dr. Young.

Dr. Everett P. Veatch, Pasadena, Texas, read a paper entitled "A Comparison of the Effects of Quinine and Atabrine on the Treatment of Malaria."

Paper by Dr. Rolla B. Hill and Dr. Francisco J. C. Cambournac, International Health Division, Rockefeller Foundation, Lisbon, Portugal, entitled "Intermittent Irrigation in Rice Cultivation and its Effect on Yield, Water Consumption and *Anopheles* Production," was read by Dr. Hill.

Dr. Henry W. Kumm, International Health Division, Rockefeller Foundation, San Jose, Costa Rica, C. A., read a paper entitled "The Eggs of Some Costa Rican Anophelines."

Mr. R. Edward Bellamy, Georgia State Department of Public Health, Atlanta, Georgia, read a paper entitled "Observations on the Macroscopic Species Identification of Larval Anophelines in Georgia" (Lantern Slides).

The Committee then adjourned until 9:00 a. m. Friday.

Friday, November 15, 9:00 a. m.

The Committee convened in the Rathskeller of the Seelbach Hotel, Louisville, Kentucky, and was called to order by the chairman, Mr. W. G. Stromquist, Chattanooga, Tennessee, who read his Chairman's Address, entitled "A Partnership in Malaria Control."

Mr. James H. Le Van, U. S. Public Health Service, National Institute of Health, Bethesda, Maryland, read a paper entitled "Present Day Methods for Controlling *Aedes aegypti* Mosquitoes" (Lantern Slides).

Paper by Dr. R. B. Watson and Dr. O. M. Derryberry, Tennessee Valley Authority, Wilson Dam, Alabama, entitled "An Evaluation of Mosquito-Proofing for Malaria Control Based on Three Years' Observations" (Lantern Slides), was read by Dr. Derryberry.

"Further Consideration of Construction and Maintenance Costs of Mosquito-Proofing for Malaria Control" was presented by Mr. C. C. Kiker, Tennessee Valley Authority, Wilson Dam, Alabama, and Mr. H. E. Breedlove, Alabama State Department of Public Health, Athens, Alabama.

Mr. David Lee, Malaria Division, Escambia County Health Department, Pensacola, Florida, read a paper entitled "Experimental Wells in the Study and Evaluation of a Drainage Problem."

Mr. Wendell Gingrich, University of Texas Medical Department, Galveston, Texas, read a paper entitled "Immunization in Bird Malaria" (Lantern Slides).

Following the scientific program, the Committee reconvened in business session.

The Subcommittee appointed to confer with representatives of the Southern Branch of the American Public Health Association presented a report recommending: That the Friday morning sessions be dropped in favor of a Tuesday morning session, providing (1) that the same meeting place can be arranged for the Tuesday morning and Thursday afternoon sessions, and (2) that the management of the Southern Medical Association approves of the arrangement. A motion was adopted approving of this change in the event the conditions stipulated are fulfilled.

On motion proposals suggesting (a) the creation of a "planning commission for the co-ordination of all malaria control activities," and (b) of an amendment to the constitution of the National Malaria Committee to permit of the creation of state sections, were referred to the Subcommittee on Resolutions for report with recommendations at the 1941 meeting.

There being no further business the Committee then adjourned *sine die*.

AMERICAN SOCIETY OF TROPICAL MEDICINE

Meeting conjointly with Southern Medical Association

Officers

President—Dr. Louis L. Williams, Jr., Washington, D. C.
President-Elect—Dr. Thomas T. Mackie, New York, New York.
Vice-President—Dr. Malcolm H. Soule, Ann Arbor, Michigan.
Secretary-Treasurer—Dr. E. Harold Hinman, Wilson Dam, Alabama.
Editor—Dr. Charles F. Craig, San Antonio, Texas.

Tuesday, November 12, 2:00 p. m.

The Society met in the Seelbach Hotel, Rathskeller Room, Louisville, Kentucky, and was called to order by the President, Dr. Louis L. Williams, Jr., Washington, D. C., who presided.

A feature of this Scientific Session was the Fifth Charles Franklin Craig Lecture on Tropical Medicine entitled "The Control of Typhus Fever," by Dr. R. E. Dyer, National Institute of Health, Washington, D. C.; and the award of the Walter Reed Medal to Dr. Herbert C. Clark, Gorgas Memorial Laboratories, Ancon, Canal Zone, the presentation being made by Dr. Mark F. Boyd, Tallahassee, Florida.

Tuesday, November 12, 6:00 p. m.

The annual dinner and business meeting of the Council of the Society was held in the Seelbach Hotel, Leather Room.

Wednesday, November 13

The second Scientific Session of the Society was held at the Seelbach Hotel, Rathskeller Room, Louisville, and was called to order at 9:00 a. m. by the Vice-President, Dr. Malcolm H. Soule, who presided.

The third Scientific Session of the Society met in the Seelbach Hotel, Rathskeller Room, Louisville, and was called to order at 2:00 p. m. by the President, Dr. Louis L. Williams, Jr., who presided. A brief Annual Business Meeting of the Society was held, following which there was a Scientific Session.

At the business session the following officers were elected for the ensuing year:

President—Dr. Thomas T. Mackie, New York, New York.
President-Elect—Dr. Ernest Carroll Faust, New Orleans, Louisiana.
Vice-President—Dr. Fred L. Soper, Rio de Janeiro, Brazil.
Secretary-Treasurer—Dr. E. Harold Hinman, Wilson Dam, Alabama.
Editor—Dr. Charles F. Craig, San Antonio, Texas.

Councilors—Dr. N. Paul Hudson, Columbus, Ohio; Dr. Mark F. Boyd, Tallahassee, Florida; Dr. Alfred C. Reed, San Francisco, California; Dr. Henry E. Meleney, Nashville, Tennessee; Dr. L. T. Coggeshall, New York, New York; and Dr. Jean A. Curran, Brooklyn, New York.

Member of Editorial Board for Five Years—Dr. John F. Kessel, Los Angeles, California.

Thursday, November 14, 12:00 noon

The annual luncheon of the Society was held in the Seelbach Hotel, Robert E. Lee Room, Louisville, and was attended by members and guests of the Society. The President-Elect, Dr. Thomas T. Mackie, New York, New York, presided. The President, Dr. Louis L. Williams, Jr., Washington, D. C., read his President's Address entitled "Malaria Along the Burma Road."

Thursday, November 14, 2:00 p. m.

The Society met in the Seelbach Hotel, Rathskeller Room, Louisville, in joint session with the National Malaria Committee, Dr. Louis L. Williams, Jr., President of the American Society of Tropical Medicine, Washington, D. C., and Mr. W. G. Stromquist, Chairman of the National Malaria Committee, Chattanooga, Tennessee, presiding.

With the completion of the program on Thursday afternoon the Society adjourned to hold its next annual meeting in conjunction with the annual meeting of the Southern Medical Association in St. Louis, Missouri, November 11-14, 1941.

AMERICAN ACADEMY OF TROPICAL MEDICINE

Meeting conjointly with the American Society of Tropical Medicine

Officers

President—Dr. Charles S. Butler, Bristol, Tennessee.
Vice-President—Dr. Marshall A. Barber, Savannah, Georgia.
Secretary—Dr. Ernest Carroll Faust, New Orleans, Louisiana.
Treasurer—Dr. Thomas T. Mackie, New York, New York.

Thursday, November 14, 7:00 p. m.

The American Academy of Tropical Medicine held its seventh annual dinner at the Seelbach Hotel, Louisville. All members of the American Society of Tropical Medicine were cordially invited to attend. Dr. L. L. Williams, Jr., Washington, D. C., was toastmaster.

The President of the Academy, Dr. Charles S. Butler, Rear Admiral, Medical Corps, U. S. Army (Retired), Bristol, Tennessee, read his President's Address, entitled "Some Contributions of United States Naval Medical Officers to Science."

At a business session the following officers were elected for the ensuing year:

President—Dr. Marshall A. Barber, Savannah, Georgia.
Vice-President—Dr. Herbert C. Clark, Panama, R. de P.
Secretary—Dr. Ernest Carroll Faust, New Orleans, Louisiana.
Treasurer—Dr. Thomas T. Mackie, New York, New York.
Councilor for five-year term—Dr. L. L. Williams, Jr., Washington, D. C.
Councilor for three-year term—Dr. Harold W. Smith, Washington, D. C.

MISSISSIPPI VALLEY STUDENT HEALTH ASSOCIATION

Officers

President—Dr. R. M. Powell, University of Tennessee, Knoxville, Tennessee.
Vice-President—Dr. C. B. Mitchell, Mississippi State College, State College, Mississippi.
Secretary-Treasurer—Dr. Ruby Helen Paine, Berea College, Berea, Kentucky.

Monday, November 11

The Mississippi Valley Student Health Association met at the Kentucky Hotel, Ship Room, Louisville, Kentucky, and was called to order at 10:00 a. m. by the President, Dr. R. M. Powell, who presided.

Miss Margaret Dizney, Peabody College, Nashville, Tennessee, read a paper entitled "The Health Education Program of a Teachers' Training College," which was discussed by Dr. J. D. Farris, Eastern College, Richmond, Kentucky.

Dr. Ernest Carroll Faust, Director, School of Tropical Medicine, Tulane University School of Medicine, New Orleans, Louisiana, read a paper entitled "Is There an Intestinal Parasite Problem Among College Students?" which was discussed by Dr. Wm. H. Headlee, Department of Parasitology, Purdue University, Lafayette, Indiana, and Dr. Justin Andrews, Department of Malaria and Hookworm Control, State Department of Health, Atlanta, Georgia.

The annual luncheon was held in the Kentucky Hotel, Georgian Room, at 12:30 noon, the guest speaker being Dr. Arthur T. McCormack, President of the Southern Medical Association, Louisville, who spoke on "The Practice of Medicine: A Glorious Adventure."

The Association met at the Kentucky Hotel, Ship Room, Louisville, Kentucky, and was called to order at 2:00 p. m. by Dr. Powell, who presided.

Dr. F. Kirby Harder, Department of Preventive Medicine, City of Cincinnati, Cincinnati, Ohio, read a paper entitled "Immunity and Chemotherapy in a College Health Program," which was discussed by Dr. F. W. Caudill, State Department of Health, Louis-

ville, Kentucky, and Dr. Gradie R. Rowntree, Health Department, Louisville, Kentucky.

Dr. Nicholas James Giannestras, Cincinnati, Ohio, read a paper entitled "The Pronated Foot as Related to Body Mechanics and Health," which was discussed by Mr. O. H. Gunkler, Director, Physical Education Department, Berea College, Berea, Kentucky.

Dr. Kate Savage Zerfoss, Vanderbilt University, Nashville, Tennessee, led an open discussion on Plans for the Future.

At a business session the officers of the Association were unanimously reelected. The Association will continue to meet with the Southern Medical Association unless a definite merger is made with the Southern Student Health Association.

The Association then adjourned *sine die*.

WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

Officers

President—Mrs. Charles P. Corn, Greenville, South Carolina.
President-Elect—Mrs. M. Pinson Neal, Columbia, Missouri.
First Vice-President—Mrs. L. S. Thompson, Dallas, Texas.
Second Vice-President—Mrs. Eustace A. Allen, Atlanta, Georgia.
Corresponding Secretary—Mrs. J. W. Bell, Walhalla, South Carolina.
Recording Secretary—Mrs. H. V. Thomas, Clarksburg, West Virginia.
Treasurer—Mrs. K. W. Cosgrove, Little Rock, Arkansas.
Historian—Mrs. W. T. Braun, Memphis, Tennessee.
Parliamentarian—Mrs. W. H. Anderson, Booneville, Mississippi.

Wednesday, November 13, 8:00 a. m.

The Executive Board of the Woman's Auxiliary to the Southern Medical Association met at breakfast in the Brown Hotel, Louis XVI Room, Louisville, Kentucky, the Southern Medical Association being host. Twenty-seven members were present. The President, Mrs. Charles P. Corn, Greenville, South Carolina, presided.

Minutes of the Post-Convention Board meeting at Memphis, Tennessee, were read and approved.

The President presented Mrs. V. E. Holcombe, Charleston, West Virginia, President of the Auxiliary to the American Medical Association, and Mrs. M. Pinson Neal, Columbia, Missouri, President-Elect of the Woman's Auxiliary to the Southern Medical Association.

The Treasurer, Mrs. K. W. Cosgrove, gave her report, showing a bank balance of $201.52 in the checking account, and of $1,261.16 in the Jane Todd Crawford Fund. The Treasurer recommended that the Jane Todd Crawford Fund be placed in the hands of Mr. C. P. Loranz, Secretary-Manager of the Southern Medical Association, which recommendation was accepted.

The report of the Treasurer was referred to the following Auditing Committee: Mrs. Eustace A. Allen, Atlanta, Georgia; Mrs. August A. Werner, St. Louis, Missouri; and Mrs. J. Warren White, Greenville, South Carolina.

The Chairman of the Committee on the Research and Romance of Medicine, Mrs. H. Leslie Moore, Dallas, Texas, reported the printing of five hundred revised booklets, containing suggestions for programs for county auxiliaries. Motion was passed that Mrs. Moore be reimbursed $8.35, the sum spent for this printing project. Mrs. Moore was given a rising vote of thanks for her outstanding work as Chairman of the Committee.

Mrs. William Hibbitts, Chairman of the Budget Committee, reported that the various allotments totaled $250.00.

Mrs. Arthur T. McCormack, Louisville, Chairman of the Special Committee on the Jane Todd Crawford Memorial Fund, presented her report and asked that this special committee be dismissed.

Mrs. Luther Bach, Bellevue, Kentucky, Chairman of the Jane Todd Crawford Memorial Fund, asked that the $25.00 allotted the Committee for the year and which had not been used, be available next year, in addition to the usual allotment of $25.00. Motion was passed that the Executive Board recommend to the incoming Executive Board that Mrs. Bach's request be granted.

The President appointed the following Nominating Committee: Mrs. A. A. Herold, Shreveport, Louisiana, Chairman; Mrs. L. W. Williams, Savannah, Georgia; Mrs. L. S. Thompson, Dallas, Texas; Mrs. E. C. Parker, Gulfport, Mississippi; and Mrs. V. E. Holcombe, Charleston, West Virginia.

The meeting then adjourned.

Wednesday, November 13, 10:00 a. m.

The seventeenth annual meeting of the Woman's Auxiliary to the Southern Medical Association was held in the Brown Hotel, Roof Garden, Louisville, Kentucky, with the President, Mrs. Charles P. Corn, Greenville, South Carolina, presiding.

Reverend Charles W. Welch, D.D., Pastor of the Fourth Street Presbyterian Church, Louisville, delivered the invocation.

Mrs. Richard T. Hudson, Louisville, President of the Woman's Auxiliary to the Jefferson County Medical Society, and a General Chairman for the meeting, gave the Address of Welcome, which was responded to by Mrs. Olin S. Cofer, Atlanta, Georgia.

Greetings from the Woman's Auxiliary to the Jefferson County Medical Society were brought by Mrs. Philip E. Blackerby, Louisville, a General Chairman for the meeting, and from the Woman's Auxiliary to the Kentucky State Medical Association by Mrs. John M. Blades, Butler, President.

Greetings were brought from the Advisory Committee of the Southern Medical Association by Dr. Vincent W. Archer, University, Virginia, Chairman of the Council, and by Mr. C. P Loranz, Birmingham, Alabama, Secretary-Manager.

The President, Mrs. Corn, presented Mrs. V. E. Holcombe, Charleston, West Virginia, President of the Woman's Auxiliary to the American Medical Association, who addressed the assembly on the subject, "Enlarging the Circulation of the National Auxiliary Bulletin." Mrs. Corn also presented Mrs. M. Pinson Neal, Columbia, Missouri, President-Elect of the Woman's Auxiliary to the Southern Medical Association.

Recognition was made of the fourteen officers and committee chairmen in attendance.

Members of the Council of the Woman's Auxiliary to the Southern Medical Association were presented from the following states: Arkansas, Georgia, Kentucky, Louisiana, Missouri, South Carolina, Tennessee and West Virginia.

The Presidents of State Auxiliaries were presented from Arkansas, Kentucky, Mississippi, Texas and West Virginia. Four Past Presidents were presented.

Mrs. J. Ullman Reaves, Chairman of the Memorial Committee, Mobile, Alabama, conducted the In Memoriam Service, assisted by Mrs. Hildred Morrow, soprano, and Mrs. Sidney Meyers, accompanist, both of Louisville. Mrs. Estes Hargis, Birmingham, Alabama, paid special tribute to the late Mrs. Seale Harris, Birmingham, Alabama, Founder of the Woman's Auxiliary to the Southern Medical Association. Mrs. Reaves also paid tribute to the late Dr. Quitman U. Newell, St. Louis, Missouri, President-Elect of the Southern Medical Association, whose death occurred just one week before the meeting.

Dr. Nathan B. Van Etten, President of the American Medical Association, New York, New York, was presented by Dr. E. L. Henderson, Louisville, General Chairman of the Committee on Arrangements. Dr. Van Etten gave a talk on "Socialized Medicine."

The meeting then adjourned.

Wednesday, November 13, 12:30 noon

The annual luncheon of the Woman's Auxiliary was held in the Brown Hotel, Crystal Ballroom, the President, Mrs. Charles P. Corn, presiding.

Dr. Nathan B. Van Etten, President of the American Medical Association, New York, New York, offered the invocation.

Recognition was accorded the officers, chairmen of standing committees, councilors, state presidents and past presidents of the Woman's Auxiliary.

Mrs. William Hibbitts, Texarkana, Texas, was introduced as toastmistress and presented these distinguished guests: Dr. Nathan B. Van Etten, who spoke briefly; Dr. H. H. Shoulders, Speaker of the House of Delegates of the American Medical Association, Nashville, Tennessee; Mrs. Arthur T. McCormack, Louisville, wife of the President of the Southern Medical Association; Dr. V. E. Holcombe, Charleston, West Virginia; Dr. Charles P. Corn, Greenville, South Carolina; Dr. M. Pinson Neal, Columbia, Missouri; Dr. William Hibbitts, Texarkana, Texas; Mrs. Charles P. Corn; Mrs. V. E. Holcombe; and Mrs. M. Pinson Neal.

The following were then presented: Mrs. Richard T. Hudson and Mrs. Philip E. Blackerby, both of Louisville, General Chairmen for the meeting; Mrs. John M. Blades, Butler, President of the Auxiliary to the Kentucky State Medical Association; Mrs. Harry W. Venable, Louisville, the Luncheon Chairman; and Miss Grace Stroud, Louisville, Chairman of Registration.

"A Pageant of Pioneer Kentucky," written by Mrs. Joseph E.

Wier and Mr. George A. Hendon, both of Louisville, was presented under the direction of Mrs. Wier.

The luncheon session then adjourned.

Thursday, November 14, 9:30 a. m.

The concluding session of the annual meeting of the Woman's Auxiliary to the Southern Medical Association was held in the Brown Hotel, South Room, Louisville, with the President, Mrs. Charles P. Corn, presiding.

The minutes of the Pre-Convention Executive Board meeting and of the first session were read and approved.

The Chairman of the Committee on Credentials and Registration, Miss Grace Stroud, reported a total registration of 428, with 29 states and the District of Columbia and Panama represented.

The President, Mrs. Charles P. Corn, read her annual report, which was accepted with a rising vote of thanks.

Reports of the following officers were presented: President-Elect, Mrs. M. Pinson Neal; First Vice-President, Mrs. L. S. Thompson; Second Vice-President, Mrs. Eustace A. Allen; and Corresponding Secretary, Mrs. J. W. Bell.

The Corresponding Secretary read telegrams of greeting from the following: Mrs. W. K. West, Oklahoma City, Oklahoma; Mrs. R. E. Mosiman, Seattle, Washington; Dr. and Mrs. Carlton P. Potter, Syracuse, New York; Mrs. R. H. Clark, Hattiesburg, Mississippi; Mrs. C. W. Garrison, Little Rock, Arkansas; Mrs. S. A. Collom, Texarkana, Texas; and Mrs. Oliver W. Hill, Knoxville, Tennessee.

The Treasurer, Mrs. K. W. Cosgrove, reported a balance of $193.17 in the checking account and $1,256.16 in the Jane Todd Crawford Fund.

The Chairman of the Auditing Committee, Mrs. Eustace A. Allen, Atlanta, Georgia, reported that they had examined and found correct the report of the Treasurer.

Reports were received and approved from the following committees: Custodian of Records; Research and Romance of Medicine; Jane Todd Crawford; Memorial; Budget; and Special Committee on Jane Todd Crawford Memorial.

Members of the Council or Auxiliary Presidents from the following states reported: Alabama, Georgia, Louisiana, Mississippi, South Carolina, Texas, West Virginia, Arkansas, Kentucky, Missouri, Oklahoma and Tennessee.

The President appointed the following committee to approve the minutes: Mrs. W. W. Crawford, Hattiesburg, Mississippi; Mrs. W. T. Wootten, Hot Springs, Arkansas; and Mrs. Joseph E. Wier, Louisville, Kentucky.

Courtesy resolutions presented by the Chairman, Mrs. F. F. Kirby, Waco, Texas, were adopted by a rising vote.

The Nominating Committee, Mrs. A. A. Herold, Chairman, presented their report, which was accepted and the following were declared elected:

President—Mrs. M. Pinson Neal, Columbia, Missouri.
President-Elect—Mrs. J. Ullman Reaves, Mobile, Alabama.
First Vice-President—Mrs. W. T. Wootten, Hot Springs, Arkansas.
Second Vice-President—Mrs. Philip E. Blackerby, Louisville, Kentucky.
Recording Secretary—Mrs. Floyd F. Kirby, Waco, Texas.
Treasurer—Mrs. Harvey F. Garrison, Jackson, Mississippi.
Corresponding Secretary—Mrs. Harry Gilkie, Kansas City, Missouri.
Historian—Mrs. W. A. Knolle, New Orleans, Louisiana.
Parliamentarian—Mrs. B. Y. Alvis, St. Louis, Missouri.

The newly-elected officers were installed by Mrs. Arthur T. McCormack. The retiring President, Mrs. Charles P. Corn, presented the gavel to the incoming President, Mrs. M. Pinson Neal, Columbia, Missouri, who gave her inaugural address.

The annual meeting of the Auxiliary adjourned to meet in St. Louis, Missouri, November 11-14, 1941.

Thursday, November 14

The Executive Board of the Woman's Auxiliary to the Southern Medical Association, Post-Convention Meeting, met in the Brown Hotel, South Room, Louisville, the President, Mrs. M. Pinson Neal, Columbia, Missouri, presiding. All officers were present.

The President, Mrs. M. Pinson Neal, announced the appointment of Chairmen of Standing Committees and members of the Council for Alabama, Arkansas, District of Columbia, Florida and Georgia.

Bill for flowers for the In Memoriam Service was ordered paid. ¶It was moved by Mrs. P. E. Blackerby, Louisville, and the motion carried, that the special committee for Jane Todd Crawford Memorial be retained and requested to make a decision on the nature of the memorial and submit their decision to the Advisory Committee; also that Mrs. McCormack be empowered to have literature printed pertaining to the Jane Todd Crawford Memorial to be distributed to those interested. ¶After much discussion it was moved and carried that the Southern Breakfast at the American Medical Association meetings be discontinued.

The Executive Board meeting then adjourned.

CHAIRMEN OF STANDING COMMITTEES, Woman's Auxiliary to the Southern Medical Association
(All are Members of the Executive Board)

Custodian of Records—Miss Grace Stroud, Louisville, Kentucky.
Research—Mrs. W. M. Salter, Anniston, Alabama.
Resolutions—Mrs. L. S. Thompson, Dallas, Texas.
Jane Todd Crawford—Mrs. Luther Bach, Bellevue, Kentucky.
Budget—Mrs. Lowry Rush, Meridian, Mississippi.
Memorial—Mrs. John P. Helmick, Fairmont, West Virginia.

COUNCIL, Woman's Auxiliary to the Southern Medical Association
(All are Members of the Executive Board)

Expire 1941—
Kentucky—Mrs. John M. Blades, Butler.
Louisiana—Mrs. Wiley R. Buffington, New Orleans.
Maryland—
Mississippi—Mrs. R. H. Clark, Hattiesburg.
Missouri—Mrs. August A. Werner, St. Louis.
North Carolina—Mrs. J. Buren Sidbury, Wilmington.

Expire 1942—
Oklahoma—Mrs. G. H. Garrison, Oklahoma City.
South Carolina—Mrs. C. C. Ariail, Greenville.
Tennessee—Mrs. H. E. Christenberry, Knoxville.
Texas—Mrs. Frank N. Haggard, San Antonio.
Virginia—Mrs. Hawes Campbell, Venter.
West Virginia—Mrs. R. H. Walker, Charleston.

Expire 1943—
Alabama—Mrs. E. H. Hargis, Birmingham.
Arkansas—Mrs. W. R. Brooksher, Fort Smith.
District of Columbia—
Florida—Mrs. John A. Beals, Jacksonville.
Georgia—Mrs. O. S. Cofer, Atlanta.

PAST PRESIDENTS, Woman's Auxiliary to the Southern Medical Association
(All are Members of the Executive Board)

1925, Mrs. E. H. Cary, Dallas, Texas.
1926, Mrs. D. J. Williams, Gulfport, Mississippi.
1927, Mrs. Oscar M. Marchman, Dallas, Texas.
1928, Mrs. Arthur T. McCormack, Louisville, Kentucky.
1929, Mrs. C. W. Garrison, Little Rock, Arkansas.
1930, Mrs. James N. Brawner, Atlanta, Georgia.
1931, Mrs. S. A. Collom, Sr., Texarkana, Texas.
1932, Mrs. Chas. E. Oates, North Little Rock, Arkansas.
1933, Mrs. Arthur A. Herold, Shreveport, Louisiana.
1934, Mrs. Southgate Leigh, Norfolk, Virginia.
1935, Mrs. J. Bonar White, Atlanta, Georgia.
1936, Mrs. Oliver W. Hill, Knoxville, Tennessee.
1937, Mrs. Frank N. Haggard, San Antonio, Texas.
1938, Mrs. Luther Bach, Bellevue, Kentucky.
1939, Mrs. W. K. West, Oklahoma City, Oklahoma.
1940, Mrs. Charles P. Corn, Greenville, South Carolina.

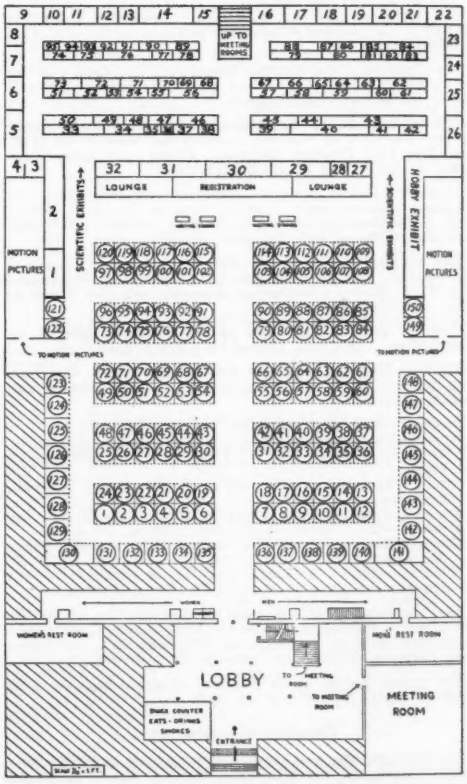
TECHNICAL EXHIBITS

The following are the business firms who had exhibits at the Louisville meeting:

	Space No.
Abbott Laboratories, North Chicago, Ill.	35–36
Agfa Ansco Corporation, Binghamton, N. Y.	121–122
Aloe Company, A. S., St. Louis, Mo.	7-8-9-10
American Hospital Supply Corp., Chicago, Ill.	137
American Optical Company, Southbridge, Mass.	23–24
American Safety Razor Corp., Brooklyn, N. Y.	89
Armour Laboratories, The, Chicago, Ill.	41

	Space No.
Aznoe's Nat'l Physicians' Exchange, Chicago, Ill.	1
Bard-Parker Company, Inc., Danbury, Conn.	116
Bausch & Lomb Optical Company, Rochester, N. Y.	13-14-15
Becton, Dickinson & Company, Rutherford, N. J.	60
Bilhuber-Knoll Corporation, Orange, N. J.	67– 68
Borden Company, The, New York, N. Y.	110
Burdick Corporation, The, Milton, Wis.	140
Carnation Company, Oconomowoc, Wis.	71– 72
Cerevim Products Corporation, New York, N. Y.	133
Ciba Pharmaceutical Products, Inc., Summit, N. J.	49– 50
Clapp, Inc., Harold H., Rochester, N. Y.	51– 52
Davies, Rose & Company, Ltd., Boston, Mass.	111
Davis & Geck, Inc., Brooklyn, N. Y.	34
Davis Sales Company, R. B., Hoboken, N. J.	63
Devereux Tutoring Schools, Berwyn, Pa.	86
DeVilbiss Company, Toledo, Ohio	94
Doak Company, The, Cleveland, Ohio	95
Doho Chemical Corporation, The, New York, N. Y.	70
Duke Laboratories, Stamford, Conn.	96
Eastman Kodak Company, Rochester, N. Y.	149–150
Fischer & Company, Inc., H. G., Chicago, Ill.	132
Foregger Company, The, New York, N. Y.	84
General Electric X-Ray Corporation, Chicago, Ill.	142-143-144
Gradwohl Laboratories, St. Louis, Mo.	88
Heinz Company, H. J., Pittsburgh, Pa.	131
Hoffmann-LaRoche, Inc., Nutley, N. J.	128–129
Hynson, Westcott & Dunning, Inc., Baltimore, Md.	43–44
Irradiated Evaporated Milk Institute, Chicago, Ill.	138
Johnson & Johnson, New Brunswick, N. J.	65– 66
Kalak Water Company, New York, N. Y.	87
Kelley-Koett Manufacturing Co., Covington, Ky.	134–135
Knox Gelatine Company, Johnstown, N. Y.	45– 46
LaMotte Chemical Products Co., Baltimore, Md.	136
Lea & Febiger, Philadelphia, Pa.	61
Lederle Laboratories, Inc., New York, N. Y.	90
Libby, McNeill & Libby, Chicago, Ill.	119
Liebel-Flarsheim Company, The, Cincinnati, Ohio	62
Lilly & Co., Eli, Indianapolis, Ind.	97-98-99-100-101-102
Lippincott Company, J. B., Philadelphia, Pa.	85
M & R Dietetic Laboratories, Inc., Columbus, Ohio	31– 32
Macmillan Company, The, New York, N. Y.	109
Majors Company, J. A., New Orleans, La., and Dallas, Texas	6
Mallinckrodt Chemical Works, St. Louis, Mo.	47
Maltbie Chemical Co., The, Newark, N. J.	126
Mead Johnson & Company, Evansville, Ind.	112-113-114
Medical Bureau, The, Chicago, Ill.	115
Mellin's Food Company, Boston, Mass.	42
Merck & Company, Rahway, N. J.	77– 78
Merrell Company, The Wm. S., Cincinnati, Ohio	17– 18
Mosby Company, C. V., St. Louis, Mo.	91-92-93
Mueller & Company, V., Chicago, Ill.	48
Muller Laboratories, The, Baltimore, Md.	69
Parke, Davis & Co., Detroit, Mich.	103-104-105-106-107
Patterson Screen Company, Towanda, Pa.	64
Pet Milk Company, St. Louis, Mo.	75– 76
Petrolagar Laboratories, Inc., Chicago, Ill.	25– 26
Picker X-Ray Corporation, New York, N. Y.	123-124-125
Prior Company, Inc., W. F., Hagerstown, Md.	120
Puritan Compressed Gas Corp., Kansas City, Mo.	16
Radium Emanation Corporation, New York, N. Y.	118
Riedel-de Haen, Inc., New York, N. Y.	33
S.M.A. Corporation, Chicago, Ill.	27-28-29-30
Sanborn Company, The, Cambridge, Mass.	40
Sandoz Chemical Works, Inc., New York, N. Y.	11– 12
Saunders Company, W. B., Philadelphia, Pa.	5
Schering Corporation, Bloomfield, N. J.	2
Searle & Company, G. D., Chicago, Ill.	73– 74
Sharp & Dohme, Philadelphia, Pa.	79-80-81-82-83
Smith, Kline & French Lab., Philadelphia, Pa.	38– 39
Spencer Lens Company, Buffalo, N. Y.	21– 22
Squibb & Sons, E. R., New York, N. Y.	145-146-147-148
Standard X-Ray Company, Chicago, Ill.	139
Stearns & Company, Frederick, Detroit, Mich.	53– 54
Surgical Mechanical Research, Los Angeles, Calif.	130
Taylor Instrument Companies, Rochester, N. Y.	108
Vegex, Incorporated, New York, N. Y.	37
Westinghouse X-Ray Co., Inc., Long Island City, New York	127
White Laboratories, Inc., Newark, N. J.	3– 4
Williams & Wilkins Company, The, Baltimore, Md.	117
Winthrop Chemical Company, Inc., New York, N. Y.	19– 20
Wisconsin Alumni Research Foundation, Madison, Wis.	141
Wyeth & Bro., Inc., John, Philadelphia, Pa.	55-56-57-58-59

EXHIBIT DIAGRAM, LOUISVILLE MEETING



Scientific and Technical Exhibits—Technical Exhibits forward, Space Numbers 1 to 150 (in circles); and Scientific Exhibits to the rear, Space Numbers 1 to 95.

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3514 Lucas Avenue, St. Louis, Missouri
R. B. H. Gradwohl, M.D., Director

Continued from page 103

has been promoted to Professor. Dr. William McC. Ballinger has been promoted to Associate Professor of Gastroenterology and Dr. Edgar W. Davis to Professor of Clinical Surgery.

Dr. William J. Mallory and Dr. James A. Cahill, Jr., Washington, have been appointed heads of the local committee to work with the Medical and Surgical Supply Committee of America, an organization furnishing medical aid to recognized relief organizations in Great Britain.

Dr. William Gerry Morgan, Washington, has been appointed a member of the Committee on Medical Preparedness of the American Gastroenterological Association.

Medical Society of St. Elizabeth Hospital, Washington, has installed the following officers: Dr. Ralph J. Haws, President; Dr. Irma Belk Hobart, Vice-President; and Dr. Manson B. Pettit, Secretary-Treasurer.

Dr. James A. Gannon, Washington, has been appointed by United States District Court Chief Justice Wheat to the District Board of Education, succeeding the late Gratz E. Dunkum.

Dr. Don Knowlton has left Washington for duty with the United States Fifth Marine Reserve Battalion, of which he is Senior Medical Officer. Dr. Henry T. Kulesher, who has been associated with Dr. Knowlton, will carry on his practice.

DEATHS

Dr. Ovid Clemmons Foote, Washington, aged 53, died in October of injuries received in an automobile accident.

Dr. Anita Newcomb McGee, Washington, aged 76, died October 5 of arteriosclerosis and cerebral hemorrhage.

FLORIDA

Marion County Medical Society, at its October 17 meeting, elected Dr. H. L. Harrell, Ocala, to fill the unexpired term of Dr. R. C. Cumming, Ocala, as Secretary. Dr. Cumming has been called to active duty as a medical reserve officer in the Army.

Pinellas County Medical Society has installed Dr. N. W. Gable, Jr., St. Petersburg, President, and has elected Dr. M. A. Nickle, Clearwater, President-Elect; Dr. A. S. Anderson, St. Petersburg, First Vice-President; Dr. A. R. Frederick, St. Petersburg, Second Vice-President; and Dr. W. C. McConnell, St. Petersburg, Secretary-Treasurer.

Dr. A. R. Hollender, Miami Beach, was elected President-Elect of the American Congress of Physical Therapy at its nineteenth annual meeting, held in Cleveland, Ohio, September 2-7.

Dr. John F. Lovejoy, Jacksonville, succeeds Dr. F. L. Fort, Jacksonville, as Orthopedic Surgeon for the Florida Crippled Children's Commission, Dr. Fort having resigned to confine his work to private practice.

Dr. Margaret B. Williams, who has completed a postgraduate course in anesthetics at Bellevue Hospital, New York, has opened offices in Miami.

Dr. J. C. Dickinson, Tampa, was elected Second Vice-President of the American Roentgen Ray Society, held in Boston in October.

Dr. A. Judson Graves, having completed a fellowship in radiology at the University of Pennsylvania, is now associated with Dr. W. McL. Shaw, Jacksonville, in the practice of radiology.

Dr. W. Tracy Haverfield, having completed his residency and training in neurological surgery at the University of Chicago Clinics Hospital, is now associated with Dr. James G. Lyerly, Jacksonville, in the practice of neurological surgery.

Dr. S. C. Colley, Mount Dora, has been doing postgraduate work at the University of Buffalo, New York City.

Dr. W. C. McConnell, St. Petersburg, was elected President-Elect of the Southern Psychiatric Association at its annual meeting held in Jacksonville in October.

A housing project situated on Trumbo Island has been named by the Key West Housing Authority the Joseph Y. Porter Place to honor a physician who for many years before his death in 1927 was State Health Officer.

Dr. J. Frank Wilson, Jacksonville, and Mrs. Ruth Greenlee Bishop were married September 15 in Douglas, Georgia.

Dr. John Thornton Mitchell, Miami, and Miss Marie Hammond, LaGrange, Georgia, were married in October.

Dr. Clarence S. Bolender, Clearwater, and Mrs. Carrie Weaver Waddell, Cambridge City, Indiana, were married September 18.

DEATHS

Dr. Lemuel Allen Carter, Bunnell, aged 52, died September 28.

Dr. Fred Puleston, Daytona Beach, aged 78, died October 6 of cerebral thrombosis.

Dr. Herman Perkins, Panama City, aged 65, died September 29.

Continued on page 40

Constipation in Infancy

Laxatives

not needed to relieve

Constipation

when the daily feedings are prepared from milk properly modified with

Mellin's Food

Constipation in infancy probably commands the physician's attention more often than any other symptom that points to the need of readjusting a feeding formula.

Constipation is a common complaint and oftentimes is the real reason for a slow gain in weight, restless nights and a fretful, uncomfortable baby.

Infants fed on milk and water in proportions suitable for healthy babies of given age and weight with an amount of Mellin's Food to meet the carbohydrate requirement (*six to eight level tablespoons to the full day's mixture*) are seldom constipated.

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MELLIN'S FOOD: Produced by an infusion of Wheat Flour, Wheat Bran and Malted Barley admixed with Potassium Bicarbonate—consisting essentially of Maltose, Dextrins, Proteins and Mineral Salts.

Continued from page 38

GEORGIA

Georgia Tuberculosis Association, at its meeting held in Savannah in October, elected Dr. John L. Elliott, Savannah, President, and Dr. James M. Hull, Augusta, Vice-President.

Dr. Allen H. Bunch, Atlanta, at the recent meeting of the Board of Trustees of the United States Pharmacopoeial Convention held in Washington, D. C., was elected Chairman of the Committee on Constitution and By-Laws to serve until the next Decennial Convention in 1950.

Dr. Newdigate M. Owensby, Atlanta, founder of the Southern Psychiatric Association, was reelected Secretary-Treasurer at its annual meeting held in Jacksonville, Florida, recently. The next convention will be held in Nashville, Tennessee.

Dr. Geo. Y. Massenburg, Dr. A. M. Phillips and Dr. Chas. N. Waden, all of Macon, recently took postgraduate work at the Mayo Clinic, Rochester, Minnesota.

Dr. Robert W. Candler, Atlanta, announces the opening of offices in the Doctors Building for the practice of surgery.

Dr. Lewis H. McDonald will be associated with Drs. Hulett H. and Rufus A. Askew, Candler Building, Atlanta, in the practice of medicine and general surgery.

Dr. J. Harris Dew, Dr. Harold P. McDonald, Dr. Julian G. Riley and Dr. Edgar F. Fincher, all of Atlanta, and Dr. O. C. Woods, Milledgeville, and Dr. Ralph N. Johnson, Rome, have been elected to fellowship in the American College of Surgeons.

Dr. A. J. Waring, Savannah, has been elected Vice-President of the Chatham-Savannah Health Center and will become President this year.

DEATHS

Dr. Charles Edward Boynton, Jr., Atlanta, aged 40, died suddenly September 24 of heart disease.

Dr. Bert Luther Kennedy, Dalton, aged 60, died October 17.

KENTUCKY

Dr. R. T. Rudd, Fulton, held a birthday party, celebrating the birthdays of the 2,418 children he has delivered in forty-five years of practice. The oldest present was 44 and the youngest seventeen weeks.

Dr. Owen Carroll, New Castle, and Miss Elizabeth S. G. Thomas were married October 26.

DEATHS

Dr. Edward Bogard, Outwood, aged 60, died October 28 of coronary occlusion.

Dr. Louis Coblin, Anchorage, aged 88, died October 2 of a fractured hip received in a fall.

Dr. Louis William Eckles, Jr., Louisville, aged 55, died October 29 of pneumonia.

Dr. John King Freeman, Louisville, aged 73, died November 6.

Dr. Walter Redmon Pinnell, Mount Sterling, aged 54, died October 2 of nephritis.

Dr. Jacob Schultz, Middlesboro, aged 60, died October 3 of septicemia and infection of urinary tract.

Dr. Jesse Ira Whittenberg, Louisville, aged 68, died September 24 of carcinoma of the throat.

Dr. LeRoy Willis, Central City, aged 58, died September 5.

LOUISIANA

New Orleans Graduate Medical Assembly will hold its fifth annual meeting at the Roosevelt Hotel, New Orleans, March 3-6.

Dr. Robert T. Lucas, Shreveport, was elected Vice-President from Louisiana of the Tri-State Medical Society of Texas, Louisiana and Arkansas, held recently at Shreveport.

Dr. C. Gordon Johnson, New Orleans, won the Metairie golf championship in November.

Dr. Daniel N. Silverman, New Orleans, has been named South Regional Committeeman of the American Gastroenterological Association.

Dr. Rudolph Matas, Dr. D. N. Silverman, Dr. Alton Ochsner, Dr. J. H. Musser, all of New Orleans, and Dr. A. A. Herold, Shreveport, are members of the Regional Committee of the Medical and Surgical Supply Committee of America, an organization furnishing medical aid to recognized relief organizations in Great Britain.

Assistant Surgeon G. E. Parkhurst has been transferred from

Continued on page 42

ANNOUNCING

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"Dr. Nix has collected a variety of reminiscences which . . . are likely to appeal to the intelligent reader, whether physician or patient."
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Continued from page 40

the United States Marine Hospital to the Quarantine Station at New Orleans.

DEATHS

Dr. Joseph A. Estopinal, New Orleans, aged 64, died October 9.

Dr. Henry Edward Menage, New Orleans, aged 68, died October 23.

Dr. John Marcus Koelle, New Orleans, aged 63, died October 1 of chronic myocarditis.

Dr. Simon Gunerus Gill, New Orleans, aged 95, died October 23 of malignant papilloma of the bladder and chronic myocarditis.

MISSISSIPPI

The Vicksburg Clinic announces the association of Dr. Frank Chunn, formerly of Detroit, Michigan, his practice being limited to orthopedics and surgery.

Clarksdale and Six Counties Medical Society has elected Dr. J. A. Slack, Friars Point, President; Vice-Presidents from the various counties—Bolivar, Dr. H. L. Cockerham, Gunnison; Coahoma, Dr. J. L. Levy, Clarksdale; Quitman, Dr. J. P. Walker, Lambert; Tallahatchie, Dr. J. C. Backstrom, Tutwiler; Tunica, Dr. M. G. Jernsberg, Hollywood; and Dr. Guy R. Post, Clarksdale, Secretary-Treasurer.

Dr. E. L. Fuller has been elected City Physician of Greenville to succeed Dr. B. H. Hand until January, 1942. Dr. Hand will be with the National Guard at Camp Blanding, Florida, for training.

Dr. Estelle Magiera, psychiatrist at Mississippi State Hospital, Whitfield, has resigned from that institution to accept a position with the Neuropsychiatric Institute of Hartford Retreat at Hartford, Connecticut.

Dr. Frank A. Donaldson, Assistant Superintendent of the Mississippi State Hospital at Whitfield since 1936, has been ap-

Continued on page 44

Aviation Medicine and Aviation Ophthalmology

The George Washington University School of Medicine, Washington, D. C.

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February 3rd-7th, 1941, Inclusive

GUEST LECTURERS

Lt. Col. David N. W. Grant, USA; Lt. Col. Robert K. Simpson, USA; Major John M. Hargreaves, USA; Capt. Harry G. Armstrong, USA; Capt. Otis O. Benson, Jr., USA; Comdr. J. C. Adams, USN; Comdr. J. R. Poppen, USN; Lt. Comdr. Rex H. White, USN; Dr. Wm. R. Stovall, C.A.B.; Dr. Walter A. Ostendorf, C. A.B.; Dr. Ralph Greene, Eastern Air Lines; Dr. Hodges McKnight, American Airlines; Dr. W. Randolph Lovelace, II, Mayo Clinic; Dr. Adelbert Ames, Jr., Dartmouth Medical School; Dr. Ross A. McFarland, Harvard University; Mr. David L. Behncke; Dr. Ernest Sheppard; Dr. G. Victor Simpson; Dr. E. Leonard Goodman.

Credit will be given by the War Department and Navy Department to officers in the Medical Reserve Corps who attend this course. Brochure on request.

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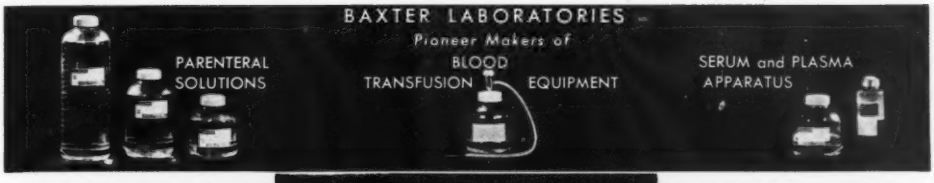
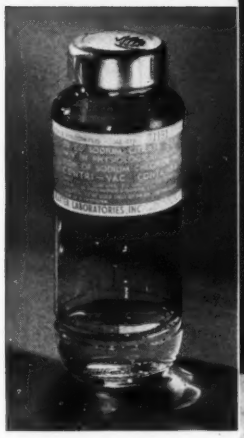
SPECIAL PRACTICAL COURSE IN OCULAR SURGERY, PATHOLOGY AND ORTHOPTICTS, April 14-19, 1941, inclusive.

For information apply to the Secretary, 927 17th Street, N.W., Washington, D. C.





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Continued from page 42

pointed Superintendent of the East Louisiana Hospital at Jackson, Louisiana. Dr. C. M. Speck, New Albany, has been appointed to succeed Dr. F. A. Donaldson as Assistant Superintendent.

DEATHS

Dr. Walter C. Friday, Starkville, aged 49, died November 15.

Dr. Gilbert Emmings Eddy, Heidelberg, aged 56, died October 5 of uremia.

Dr. Thomas Fleet Conn, Monticello, aged 68, died November 19.

MISSOURI

The Missouri physicians who were elected officers of the Mississippi Valley Medical Society at its recent meeting are: Dr. Dan G. Stine, Columbia, President-Elect; Dr. Louis H. Jorstad, St. Louis, Dr. E. S. Smith, Kirksville, and Dr. F. Stanley Morest, Kansas City, to membership on the Board of Directors. The seventh annual meeting of this Society will be held at Cedar Rapids, Iowa, October 1-3.

The annual birthday pilgrimage to the grave of Dr. William Beaumont, sponsored by the St. Louis Medical Society, was held November 21, and Rev. Alphonse M. Schwitalla, S.J., Ph.D., made the principal address.

Dr. James R. McVay, Kansas City, has been elected President of the Frisco Surgical Society. The 1941 meeting of the Society will be held in Kansas City.

Dr. G. D. Royston, St. Louis, was elected President-Elect of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons at the annual meeting held in Excelsior Springs in September.

Dr. Milton A. Spitz, St. Louis, and Miss Lucille Lesch, Madison, Wisconsin, were married October 6.

DEATHS

Dr. Arthur Lynn Anderson, Springfield, aged 65, died October 25 of cerebral hemorrhage.

Dr. Thomas R. Butler, Lexington, aged 78, died July 4.

Dr. Hilburn W. Harris, Canton, aged 76, died August 12.

Dr. Archie L. Shanks, Hannibal, aged 65, died October 23 of coronary occlusion.

Dr. Cornelius H. van Ravenswaay, Boonville, aged 69, died September 29.

Dr. Hiram J. Clark, Excelsior Springs, aged 72, died October 2 of coronary heart disease.

Dr. Charles B. Shotwell, Richmond, aged 83, died October 12 of bronchopneumonia.

NORTH CAROLINA

North Carolina Neurological and Psychiatric Association will hold its next session in connection with the annual meeting of the State Medical Society, the officers being Dr. Mark A. Griffin, Asheville, President; Dr. A. A. Barron, Charlotte, Vice-President; and Dr. M. D. Kemp, Pine Bluff, Secretary.

Dr. Fielding Combs, Winston-Salem, was elected Second Vice-President of the Norfolk and Western Railway Surgeons' Association, which met in New York last fall.

Dr. Robert W. McKay, Charlotte, was elected President of the North Carolina Urological Association at its recent annual meeting; Dr. John W. Frazier, Jr., Salisbury, Vice-President; and Dr. William C. Lott, Asheville, Secretary.

Dr. A. Watts Makepeace, who has been on the faculty of the University of Pennsylvania Medical School, Philadelphia, has joined the staff of the School of Public Health of the University of North Carolina as Professor of Obstetrics.

Dr. Oren Moore, Charlotte, has been elected to membership in the American Association of Obstetricians, Gynecologists and Abdominal Surgeons.

Dr. William Reid Pitts has opened offices in the Medical Arts Building, Charlotte, with practice limited to surgery and neurosurgery.

Dr. Grover Cleveland Wrenn, Siler City, and Miss Virginia Gaddy were married in Raleigh October 20.

Dr. Philip Brower Parsons, Charlotte, and Miss Annette Barnes, of Elm City, were married October 12.

Dr. John William Roy Norton, Professor of Public Health

Continued on page 46

Decholin

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IN THE treatment of chronic cholecystitis, noncalculous cholangitis, and biliary engorgement, an increase in the quantity and rate of bile flow washes out inspissated, stagnant accumulations. Nidi of infection, if present, are also removed.

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Solution Racĕphedrine Hydrochloride may be applied to the nasal mucous membranes as a spray or with a dropper.

Solution Racĕphedrine Hydrochloride consists of 1% of the drug in a modified Ringer's solution containing sodium chloride 0.85%, potassium chloride 0.03%, calcium chloride 0.025%, magnesium chloride 0.01%, and chlorobutanol 0.5% (for stabilization purposes).

*Arch. Otolaryng. 17:787, 1933

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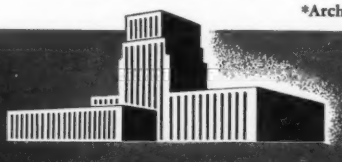

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Continued from page 44

Administration in the School of Public Health, Chapel Hill, has been called to service and is now located at Fort Bragg.

Dr. C. H. Armentrout, who has completed a postgraduate course in internal medicine at Harvard University, is located in the Arcade Building, Asheville.

Dr. Alfred W. Norris, formerly of Jonesport, Maine, is located at Benson.

DEATHS

Dr. Ransom Lee Carr, Rosehill, aged 62, died October 17 of heart disease.

Dr. John Peter Munroe, Charlotte, aged 83, died October 14 of pneumonia.

Dr. Frederick Dacosta Austin, Charlotte, aged 54, died October 14 of cerebral hemorrhage.

Dr. George David Vick, Selma, aged 63, died November 2.

OKLAHOMA

Northeast Oklahoma Society has elected Dr. Isadore Dyer, Tahlequah, President; Dr. H. K. Riddle, Coweta, Vice-President; and Dr. W. Jackson Sayles, Miami, Secretary-Treasurer, reelected.

The Commissioner of the State Health Department has announced the following new County Health Superintendents: Dr. W. R. Cheatwood, Ada, Pontotoc County; Dr. Lowell L. Stokes, Anadarko, Caddo County; and Dr. A. R. Hughes, Miami, Ottawa County (acting).

Dr. Earl D. McBride, Oklahoma City, has announced his resignation as Medical Advisor of the State Insurance Fund.

DEATHS

Dr. Charles E. Beitmen, Kendrick, aged 73, died in October of cerebral hemorrhage.

Dr. LeRoy Long, Oklahoma City, aged 71, died October 27.

SOUTH CAROLINA

The Medical College of the State of South Carolina, Charleston, has opened bids for the construction of the new auditorium, estimated cost of the building to be $60,000.

The Sirrine Ward for Children at the General Hospital, Greenville, was dedicated November 22, increasing the capacity of the hospital seventeen rooms, giving a total of 275 beds. This addition was made possible through the Duke Endowment and the generosity of J. E. and W. G. Sirrine in honor of their father and mother.

Dr. Robert Wilson, Charleston, at the scientific meeting of the Columbia Medical Society on November 11, was presented by this Society a handsome silver tray with engraved inscription as a token of their high esteem and in appreciation of his services to mankind.

Dr. A. Eugene Brown has been named Examining Physician on District One Selective Service Board for Greenville County.

Dr. M. C. Smith, Simpsonville, has oeen appointed Examining Physician for Board Three.

Dr. E. O. Horger, Jr., Greenville, has been appointed City Physician, succeeding Dr. H. P. Bailey.

Dr. Kathrine Baylis Macinnia has opened offices in Columbia with practice limited to diagnosis and treatment of allergic diseases.

Dr. James Samuel Blair and Miss Mary Gwynne Fewell, Rock Hill, were married November 1.

Dr. Buford S. Chappell, now stationed at Fort Jackson, and Miss Mary Marjorie Cooper were married November 8.

DEATHS

Dr. Edgar Alphonso Hines, Seneca, aged 73, died November 27 of a heart attack.

Dr. John Newton Campbell, Farmville, aged 62, died October 15 of coronary thrombosis.

Dr. Frank Lander, Williamston, aged 68, died recently.

Dr. Henry Bettis Malone, Chester, aged 65, died October 8 of bronchiectasis and heart disease.

Dr. G. W. Poovey, Lancaster, aged 72, died November 2.

Dr. Zachary Taylor Pinner, Pomaria, aged 62, died October 18 of pneumonia.

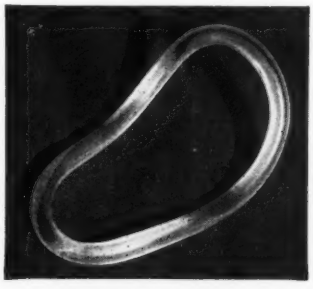
Continued on page 48

Now—Both Smith and Hodge Patterns *in the new Emmert Plastic Pessary*

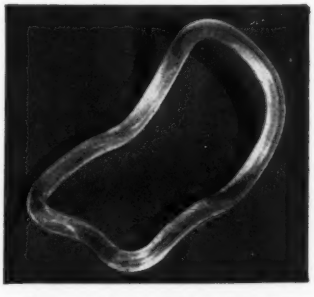
The Emmert Plastic Pessary, first offered in the Smith pattern, proved so successful that we are now offering it in both Smith and Hodge patterns. Pessaries in this new material, suggested by Dr. Frederick V. Emmert of St. Louis, may be shaped before insertion to the requirements of the individual patient. Placing in the tray of a sterilizer or in hot water for a few minutes softens the material momentarily for shaping. Hardening after heating is a matter of seconds. The glass-smooth, transparent material will not affect membranes or cause increased secretion. It never becomes roughened in use; will not absorb odors, and is easily cleansed with cold water and soap.

Emmert-Smith Plastic Pessary: Size	0	1	2	3	4	5
Diam., ins.	2¾	3	3¼	3½	3¾	4¼
Emmert-Hodge Plastic Pessary: Size	0	1	2	3	4	
Diam., ins.	2¾	3	3¼	3½	3¾	

PRICE—Either pattern, each **50c.** Per dozen **$5.00**
(State sizes wanted)



Emmert-Smith Plastic Pessary



Emmert-Hodge Plastic Pessary

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19th and Olive Streets **St. Louis, Missouri**

will he play again?

The arthritic patient looks hopefully, often forlornly, toward the future. Will he resume his economic livelihood? Fortunately, since the introduction of 'Lyovac' Bee Venom Solution twenty months ago, a rapidly increasing volume of evidence has shown that a very encouraging percentage of arthritis patients are receiving relief through this type of therapy. The effectiveness of 'Lyovac' Bee Venom therapy is evidenced by reduced swelling, improved joint motility, and relief from pain. It appears to be most effective in extra-articular manifestations, such as muscular rheumatism, sciatica, lumbago, neuritis, and iritis.

By means of the new and unique lyophile process, 'Lyovac' Bee Venom Solution supplies sterile, standardized bee venom in a stable form which retains its potency for many years. Each vial represents the whole venom of ten bee stings, rapidly frozen and rapidly dehydrated under a high vacuum, and preserved under vacuum in a specially devised vial. Detailed information on the use of this product will be sent on request.

MULFORD
BIOLOGICAL
LABORATORIES

'LYOVAC'
Bee Venom Solution
Sharp & Dohme

Continued from page 46

TENNESSEE

Southern Section, American Laryngological, Rhinological and Otological Society will hold its next meeting in Nashville, January 8.

Dr. W. S. Leathers, Nashville, was elected President of the American Public Health Association at its annual meeting held in Detroit, Michigan, in October.

Dr. Ralph O. Rycheiner, Memphis, has been elected one of the Vice-Presidents of the American Academy of Ophthalmology and Otolaryngology.

Deaths

Dr. Will Foster Fyke, Springfield, aged 50, died November 27.

Dr. Cawood Johnson Carmichael, Knoxville, aged 61, died October 9.

Dr. Chester Dare Lee, Donelson, aged 57, died October 16 of cerebral hemorrhage.

Dr. Tallulah S. Tucker, Memphis, aged 78, died September 21 of cholecystectomy following jaundice.

TEXAS

International Postgraduate Medical Assembly of Southwest Texas will meet at San Antonio, January 28-30. Dr. J. Layton Cochran, San Antonio, is President, and Dr. Charles L. McGehee, San Antonio, Secretary.

Dallas Southern Clinical Society, annual meeting, will be held in Dallas, March 17-20. Dr. Everett C. Fox, Dallas, is President, and Dr. C. H. Warren, Dallas, Secretary.

Hillcrest Memorial Hospital Staff, Waco, has elected Dr. M. C. Carlisle, President; Dr. M. Brian Aynesworth, Vice-President; and Dr. Clayton J. Traylor, Secretary.

University of Texas Faculty of Medicine, Galveston, has added the following instructors to its Staff: Dr. Jarrett E. Williams, Assistant Dean; Dr. E. W. Griffey, Instructor in Ophthalmology; Dr. Henry S. Meyer, Instructor in Clinical Pediatrics; and Dr. Keith Bradford, Dr. John McGivney and Dr. C. F. Mares, Instructors in Surgery.

The Hooker Hospital-Clinic, Carthage, privately owned by Dr. Lynn C. Hooker, which recently opened, was constructed and equipped at an approximate cost of $14,500.

Pittsburg Medical and Surgical Hospital, Pittsburg, which is owned and under the management of Dr. J. H. Mitchell, Dr. R. Y. Lacy, Dr. R. L. Johnson and Dr. P. A. Reitz, was formally opened recently. It will accommodate twelve adult patients and has provision for nurses' quarters and the usual hospital facilities.

Texas Children's Hospital, Dallas, constructed at a cost of $300,000, was formally opened in October. It is a three-story structure, the first two floors providing for fifty-seven beds and the third floor as living quarters for the interns and staff physicians. This new hospital with Freeman Memorial Clinic and the Bradford Memorial Hospital will form a children's medical center.

Texas Surgical Society has elected Dr. W. L. Crosthwait, Waco, President; Dr. R. E. Cone, Galveston, First Vice-President; Dr. H. A. Peterson, Houston, Second Vice-President; Dr. Walter G. Stuck, San Antonio, Secretary, reelected; and Dr. C. B. Carter, Dallas, Treasurer. The next meeting will be held April 7-8 at Temple.

Texas Association of Obstetricians and Gynecologists has elected Dr. Roy Grogan, Fort Worth, President; Dr. Minnie Maffett, Dallas, President-Elect; Dr. Minnie C. O'Brien, San Antonio, Vice-President; and Dr. Julius McIver, Dallas, Secretary-Treasurer, reelected. The 1941 meeting will be held in Galveston.

Texas Public Health Association has elected Dr. George A. Gray, Sweetwater, President; Dr. Burke Brewster, Fort Worth, President-Elect; Miss Ruth Albrecht, Austin, First Vice-President; Dr. Austin E. Hill, Houston, Second Vice-President; P. A. Kerby, Austin, Executive Secretary, reelected; and Alan C. Love, Austin, Treasurer. The 1941 meeting will be held at Corpus Christi.

Fifteenth (Northwest Texas) District Medical Society reelected all officers for 1941 as follows: Dr. H. M. Ragland, Gilmer, President; Dr. J. K. Bates, Pittsburg, Vice-President; and Dr. J. N. White, Texarkana, Secretary-Treasurer. Longview was selected for the next meeting place.

Ennis Hospital has elected on its Staff: Dr. A. J. Cox, Chairman; Dr. J. Lawrence Clark, Vice-Chairman; and Dr. John M. Chapman, Secretary.

Continued on page 50

ORALLY OR BY INJECTION

Metrazol Tablets, Oral Solution and Powder for prescription compounding.

COUNCIL ACCEPTED

For circulatory and respiratory support in the emergencies of congestive heart failure or pneumonia prescribe Metrazol, tablets or in solution, three or four times a day. In extreme cases oral administration may be supplemented by injection.

DOSE: 1½ to 4½ grains (1 to 3 tablets, or 1 to 3 cc. oral or parenteral solution).

BILHUBER-KNOLL CORP. - ORANGE, NEW JERSEY

Thyloquinone in Oil

(Squibb 2-Methyl-1, 4-Naphthoquinone)

THE definite practical importance of Vitamin K-active compounds has been shown to be their ability to prevent and control certain hemorrhagic states caused by a lowered prothrombin content of the blood associated with patients with Vitamin K deficiency. Such deficiencies often occur in jaundiced patients; in individuals with liver damage and, in the new-born.

Investigations at The Squibb Institute for Medical Research on natural and synthetic prothrombinogenic substances resulted in the discovery of the outstanding anti-hemorrhagic activity of Thyloquinone (2-methyl-1, 4-naphthoquinone). Later reports from many different laboratories have confirmed this discovery with the result that Thyloquinone is now recognized as the most potent known compound with Vitamin K activity. It is more rapidly utilized, is effective in smaller dosage and is more economical to use than the natural Vitamin K_1 or K_2 concentrates.

Thyloquinone is indicated in conditions where the blood has a subnormal prothrombin content because of Vitamin K deficiency such as obstructive jaundice, biliary fistula, and certain hepatic and intestinal derangements. *It is a highly desirable prophylactic routine at or near term in every pregnancy.*

TWO FORMS FOR ORAL ADMINISTRATION

Thyloquinone in Oil in 5-cc., 10-cc., and 50-cc. vials, each 1 cc. of corn oil containing 1 mg. Thyloquinone.

Thyloquinone in Oil in Microcaps, representing 1 mg. Thyloquinone in corn oil, individually sanitaped; in boxes of 20, 50 and 100.

"Microcap" and "Thyloquinone" are trade-marks of E. R. Squibb & Sons.

For literature address the Professional Service Department, 745 Fifth Ave., New York

E·R·SQUIBB & SONS, NEW YORK

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

Continued from page 48

The Electra Medical Clinic Building, which was formally opened recently, is owned by Dr. P. E. Fish, who does general practice and surgery. Dr. W. H. Ogden will also have offices in this building and he specializes in the treatment of eye, ear, nose and throat diseases.

Lutheran Hospital, Cuero, the former Reuss Memorial Hospital, now under the management of Dr. Robert G. Wagner and Dr. A. J. Bohman, of Cuero, will be open to all regular licensed physicians who are members of their county medical societies. Dr. G. A. King, Dr. J. C. Dobbs, Dr. Marvin Duckworth and Dr. W. E. Douthit are on the Resident Staff.

A gift from Miss Yettie Kersting, of Liberty, provides a new medical clinic building for Liberty County, the construction cost of which will be $17,500.

Dr. J. T. Harrington, Waco, who has served fifty-one years as a member of the Board of Trustees of Baylor University, was recently honored with a testimonial banquet.

Dr. K. D. Lynch, El Paso, has been elected First Vice-President of the Southwestern Medical Association, and Dr. Louis W. Breck, El Paso, Secretary-Treasurer.

Dr. L. R. Wilson has resigned as Superintendent of the John Sealy Hospital, Galveston, to accept the Superintendency of the Episcopal Hospital at Philadelphia, Pennsylvania.

Dr. Charles H. Harris, Fort Worth, has been elected Chairman of the Board of Trustees of the Mary Couts Burnett Trust for Texas Christian University.

Dr. H. Frank Carman, Dallas, was elected President of the Southern Tuberculosis Conference at its annual meeting in Monroe, Louisiana.

Dr. Bryce Twitty, former Superintendent of Baylor Hospital, has resigned to take over the duties of Administrator of the Hillcrest Memorial Hospital at Tulsa, Oklahoma.

Dr. Everett L. Goar, Houston, has been elected Vice-President of the American Academy of Ophthalmology and Otolaryngology.

Dr. Arthur J. Schwenkenberg, Dallas, was elected President of the Southern Psychiatric Association at its annual meeting in Jacksonville, Florida, in October.

Dr. Ralph H. Homan, El Paso, has been called to active duty and is stationed in the Marine Base Hospital, Parris Island, South Carolina. Dr. Joel Wright, Alpine, Vice-Councilor of the First District of the State Medical Association, will assume the duties of Dr. Homan as Councilor during his absence.

Dr. George M. Hilliard, Medical Director of Baylor Hospital, Dallas, has been named Administrator of the Hospital.

Dr. John J. Lawless, formerly Assistant Professor of Anatomy at the University of West Virginia School of Medicine, Morgantown, has been appointed Assistant Professor of Anatomy at the University of Texas School of Medicine, Galveston.

Fourth District Medical Society has elected Dr. O. H. Chandler, Ballinger, President; Dr. R. H. Cochran, Coleman, Vice-President; and Dr. F. T. McIntire, San Angelo, Secretary.

Dr. W. B. Brooks, Borger, has been elected President of the Hutchinson County Tuberculosis Association.

Dr. and Mrs. S. D. Moore, Van Aystyne, recently celebrated their golden wedding anniversary.

Dr. Frank C. Beall, Fort Worth, was recently elected President of the Texas Bridge Association, this being the third term of office for him as President.

Dr. Wallace B. Wilkinson, Dallas, has been awarded the Owen George cup for performing the most outstanding service in the Oak Cliff community because of his work for underprivileged children in the clinic of the Oak Cliff Lions Club.

Dr. Martin Lee Towler and Miss Hetta Groos Jockusch, both of Galveston, were married September 28.

Dr. Grace Hood, Fort Worth, and Mr. Derwood Morton, Arlington, were married September 12.

Dr. Thomas L. Lauderdale and Miss Margaret Hornberger, both of Fort Worth, were married November 20.

Dr. W. P. Higgins, Jr., and Miss Ruth Conner, both of Fort Worth, were married November 21.

Dr. Bassel Nelson Blanton, Temple, and Miss Frances Carol Crain, Waco, were married October 30.

Dr. A. S. Epperson, Cameron, and Mrs. Jessie Burton Watson, Houston, were married October 10.

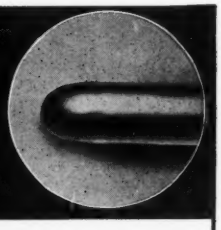
Deaths

Dr. C. R. Hannah, Dallas, aged 68, died December 16.

Dr. Eugene Young Amerson, Roscoe, aged 25, was killed October 6 in an automobile accident.

Continued on page 52

RADON SEEDS



FOR safety and reliability use composite Radon seeds in your cases requiring interstitial radiation. The Composite Radon Seed is the only type of metal Radon Seed having smooth, round, non-cutting ends. In this type of seed, illustrated here highly magnified, Radon is under gas-tight, leak-proof seal. Composite Platinum (or Gold) Radon Seeds and loading-slot instruments for their implantation are available to you exclusively through us. Inquire and order by mail, or preferably by telegraph, reversing charges.

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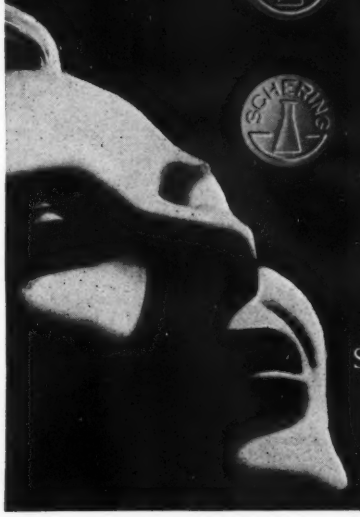
Schering's Orally Effective Progestin

PRANONE fills the long-felt need for an orally effective progestin. PRANONE'S convenience is a particularly valuable supplement to its efficacy in the treatment of conditions responding to corpus luteum therapy. Its value has been demonstrated in the prophylactic management of habitual abortion and in the treatment of certain types of dysmenorrhea and functional bleeding.



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*Trade Mark Reg. U. S. Pat. Off.

SCHERING CORPORATION

BLOOMFIELD, NEW JERSEY

Continued from page 50

Dr. Henry L. Applewhite, Archer City, aged 53, died September 6.

Dr. Hiram A. Castleberry, Ben Wheeler, aged 78, died October 14 of gastric carcinoma.

Dr. Clifford Gordon Engle, Henderson, aged 47, died October 14 from injuries received in an automobile accident.

Dr. C. W. Faulkner, Whitney, aged 71, died October 11 of carcinoma of the spine.

Dr. Carey Andrew Gray, Bonham, aged 76, died October 13 of cerebral thrombosis.

Dr. Robert H. Geer, El Paso, aged 54, died October 10 of carcinoma of the liver.

Dr. E. N. Gray, Houston, aged 79, died October 19 of heart disease.

Dr. Horace H. Hilliard, Canton, aged 40, died October 14 of heart disease.

COT-TAR
PIX-LITHANTHRACIS 5%

- Therapeutically active in eczema — particularly suitable in children's eczema.
- Forms a flexible non-peeling coat of tar.
- Can be removed with water or cleansing creams.
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- Causes no untoward irritation.

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DOAK CO., INC.
CLEVELAND, OHIO

Dr. Lane Bruce Kline, Houston, aged 59, died September 30 of heart disease.

Dr. Howard Meng Lanham, Marshall, aged 66, died October 7 of arteriosclerotic heart disease.

Dr. Eric Lafcadio Nye, Amarillo, aged 30, died October 24 of heart disease and pulmonary tuberculosis.

Dr. Preston W. Pearson, Emory, aged 58, died October 12 of cerebral hemorrhage.

Dr. Arthur Carroll Scott, Temple, aged 75, died October 27 of coronary sclerosis and thrombosis.

Dr. Arthur William West, San Antonio, aged 53, died October 3.

Dr. Cicero F. Faulkner, Whitney, aged 70, died October 11 of carcinoma.

Dr. William Orville Wilkes, Waco, aged 77, died October 17.

VIRGINIA

Louisa County Medical Society has elected Dr. H. G. Byrd, Louisa, President, and Dr. E. B. Pendleton, Cuckoo, Secretary-Treasurer.

Southwest Virginia Medical Society has elected Dr. T. K. McKee, Saltville, President; Dr. W. C. Caudill, Pearisburg, Vice-President; and Dr. James King, Radford, Secretary-Treasurer.

Virginia Cancer Foundation, which is affiliated with the American Society for the Control of Cancer, has elected Dr. J. Shelton Horsley, Sr., of Richmond, President of the Foundation. Dr. E. P. Lehman, University, was reelected a Director, and Dr. W. D. Haden, Charlottesville, Treasurer.

The new six-hundred-bed hospital at the Medical College of Virginia, Richmond, was dedicated on December 5. This hospital with equipment cost approximately $2,500,000 and provides for two new services, neuropsychiatry and contagious diseases, enlarged facilities for physical therapy and other activities, including ample provision for teaching.

Dr. W. S. Burton, Powhatan, is now connected with the Division of Venereal Disease Control of the State Health Department with offices at Long Branch, East Hampton.

Dr. D. Hunter Marrow, after spending the summer at his home in Boydton, will be in Daytona Beach, Florida, for the winter months.

Dr. Allen W. Lane, who was Assistant Health Officer in Brunswick-Greensville-Mecklenburg Health District, has just entered upon his new duties as Health Officer of Pulaski County with headquarters in Pulaski. Dr. Hubert D. Crow, formerly of

Continued on page 54

Chicago Eye, Ear, Nose & Throat College
Established 1897
231 W. Washington St., Chicago, Ill.

Practical postgraduate course in Ophthalmology and Otolaryngology.

Doctors admitted at any time for review and clinical observation.

Two residencies of one year each now available.

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For Stubborn Cases...

Petrolagar* with Cascara

Stubborn cases of constipation usually yield to Petrolagar with Cascara.

This preparation provides sufficient laxative effect to help restore normal bowel habit in chronic cases, yet it is mild enough for use in obstetrical cases. Each tablespoonful contains 13.2% of non-bitter aqueous extract of Cascara Sagrada.

The dose of Petrolagar with Cascara is one tablespoonful two to three times daily—gradually diminished. It has the advantage of exceptional palatability and continued effectiveness despite prolonged use.

Petrolagar with Cascara is available in 16 ounce bottles at all pharmacies and in the special Hospital Dispensing Unit at hospitals.

**Petrolagar—The trademark of Petrolagar Laboratories, Inc., for its brand of mineral oil emulsion, liquid petrolatum 65 cc. emulsified with 0.7 Gm. agar in a menstruum to make 100 cc.*

Petrolagar Laboratories, Inc. • 8134 McCormick Boulevard • Chicago, Illinois

Continued from page 52

Buckingham, succeeds Dr. Lane as Assistant Health Officer with headquarters at Lawrenceville.

Dr. J. Gordon Kennie, formerly of Bedford, announces his association with the Pulaski Hospital at Pulaski and with Dr. D. S. Divers and Dr. C. W. Hickam in the practice of surgery.

Dr. William H. Higgins, Richmond, has been elected a member of the American Clinical and Climatological Association.

Dr. Clarence Porter Jones, Newport News, has been elected President of the Chesapeake and Ohio Railway Surgeons' Association.

Dr. George A. Welchons, for the past two years Assistant Director of Pine Camp, Richmond's tuberculosis hospital, has been appointed Superintendent and Medical Director, succeeding Dr. P. E. Schools, who tendered his resignation after a service of fifteen years.

Dr. Otis Whitlock, who has been located in Richmond, will do general practice at Powhatan.

Dr. James K. Hall, Richmond, was elected Vice-President of the Southern Psychiatric Association at its annual meeting in Jacksonville, Florida, in October.

Dr. Fielding Combs, Winston-Salem, was elected Second Vice-President, and Dr. T. E. Armistead, Roanoke, was reelected Secretary-Treasurer of the Norfolk and Western Railway Surgeons' Association at its meeting in New York in September.

Dr. M. Pierce Rucker, Richmond, announces the association of Dr. Edwin Rucker in the practice of obstetrics and gynecology.

Dr. E. Willis Lacy, Jr., announces the opening of offices at 1214 West Franklin Street, Richmond, for the practice of internal medicine.

Dr. C. L. Outland, Medical Director for the Richmond Public Schools, presided at the meetings of the American School Health Association held in Detroit, Michigan, in October.

Dr. Willard L. Quennell has been appointed Medical Director of the Norfolk General Hospital to succeed Dr. Arthur H. Perkins, resigned.

Dr. David C. Wilson, Charlottesville, was elected President of the Mental Hygiene Society of Virginia at its annual meeting held in Richmond October 31.

Dr. Grover C. Godwin, formerly of Sanatorium, North Carolina, has been named Director of the Roanoke City Tubercular Sanatorium, succeeding Dr. John E. K. Flannagan, resigned.

Dr. Hubert Dinwiddie Crow, Lawrenceville, and Miss Pattie Gregg Featherstun, Richmond, were married November 18.

Dr. Francis Nicholson Taylor and Miss Sarah Elizabeth Madison, both of Petersburg, were married November 12.

Dr. William Province McGuire, Winchester, and Miss Dorothy Elizabeth Robinson, Glen Rock, New Jersey, were married October 19.

Dr. Maurice Milton Fliess, Clifton Forge, and Miss Irwin Rand Foster, Lynchburg, were married August 3.

Deaths

Dr. John Shelton Horsley, Jr., Richmond, aged 41, was killed instantly in an automobile accident November 22.

Dr. Joseph Thomas Buxton, Newport News, aged 65, died November 5.

Dr. William Gordon Crockett, Richmond, died October 29 of a heart attack.

Dr. David Wendell Eames, Kecoughton, aged 54, died November 8.

Dr. Samuel S. Guerrant, Callaway, aged 73, died October 28.

Dr. Elliott Thompson Jett, Falmouth, aged 71, died October 17 of strangulated inguinal hernia and intestinal obstruction.

Dr. John Gilmer Reynolds, Chatham, aged 71, died October 25.

Dr. George T. Snead, Pungo, aged 83, died October 30.

WEST VIRGINIA

Central West Virginia Medical Society has elected Dr. J. M. Cofer, Bergoo, President; Dr. H. O. Van Tromp, French Creek, Vice-President; and Dr. A. B. Bowyer, Elk View, Secretary-Treasurer.

Dr. Maxwell F. Raine, Point Pleasant, District Health Officer for Mason, Jackson, Putnam and Roane Counties, has been appointed Health Officer of Kanawha County to succeed Dr. Turner E. Cato, who recently moved to Florida.

Dr. Thomas W. Moore, Huntington, has been elected Vice-President of the Chesapeake and Ohio Railway Surgeons' Association.

EFFECTIVE THERAPY
IN
Otitis Media
REQUIRES ANALGESIA - BACTERIOSTASIS, AND DEHYDRATION OF THE TISSUES.
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KNOX GELATINE May Help You with Patients Needing PROTEIN!

May we call your attention to plain, unflavored Knox Gelatine (U.S.P.) as an excellent aid in cases where an extra protein intake seems indicated. Knox is a wholesome food protein with these qualities which recommend it as a special dietary source of protein:

1. Knox Gelatine is *all protein*...contains no sugar.
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4. Knox is one of the most easily digested of all protein foods.

We have prepared a leaflet outlining the value of plain gelatine as a protein food...with a scientific résumé of how it can help in special diets such as peptic ulcer; reducing; diabetes; infants; children and convalescents. Also included is a discussion of the new use of Knox Gelatine...taken as a drink to help reduce fatigue.

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Please send me Knox leaflet, "The Protein Value of Plain Unflavored Gelatine." I understand there is no obligation.

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In the past a frequent complaint from mothers was the expense incurred when the large bottle of antiricketic was accidentally upset.

"Busy fingers" can't spill

OLEUM PERCOMORPHUM

Even if the bottle of Oleum Percomorphum is accidentally tipped over, there is no loss of precious oil nor damage to clothing and furnishings. The unique Mead's Vacap-Dropper* is a tight seal which remains attached to the bottle, even while the antiricketic is being measured out. Mead's Vacap-Dropper offers these extra advantages also, at no increase in price:

Unbreakable

Mead's Vacap-Dropper will not break even when bottle is tipped over or dropped. No glass dropper to become rough or serrated.

No "messiness"

Mead's Vacap-Dropper protects against dust and rancidity. (Rancidity reduces vitamin potency.) Surface of oil need never be exposed to light and dust. This dropper cannot roll about and collect bacteria.

Accurate

This unique device, after the patient becomes accustomed to using it, delivers drops of uniform size.

No deterioration

Made of bakelite, Mead's Vacap-Dropper is impervious to oil. No chance of oil rising into rubber bulb, as with ordinary droppers, and deteriorating both oil and rubber. No glass or bulb to become separated while in use.

How to Use MEAD'S *Vacap-Dropper*

Remove both top and side caps. Wipe dropper tip. Place forefinger firmly over top opening and regulate rate of flow by varying the degree of pressure. Oleum Percomorphum is best measured into the child's tomato juice. This is just as convenient and much safer than dropping the oil directly into the baby's mouth, a practice which may provoke a coughing spasm.

*Supplied only on the 50 c.c. size; the 10 c.c. size is still supplied with the ordinary type of dropper.

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Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons.

BRIEF HISTORICAL NOTES ON MEAD'S CEREAL AND PABLUM

HAND in hand with pediatric progress, the introduction of Mead's Cereal in 1930 marked a new concept in the function of cereals in the child's dietary. For 150 years before that, since the days of "pap" and "panada," there had been no noteworthy improvement in the nutritive quality of cereals for infant feeding. Cereals were fed principally for their carbohydrate content.

The formula of Mead's Cereal was designed to supplement the baby's diet in minerals and vitamins, especially iron and B_1. How well it has succeeded in these functions may be seen from two examples:

(1) As little as one-sixth ounce of Mead's Cereal supplies over half of the iron and more than one-fifth of the vitamin B_1 minimum requirements of the 3-months-old bottle-fed baby. (2) One-half ounce of Mead's Cereal furnishes all of the iron and two-thirds of the vitamin B_1 minimum requirements of the 6-months-old breast-fed baby.

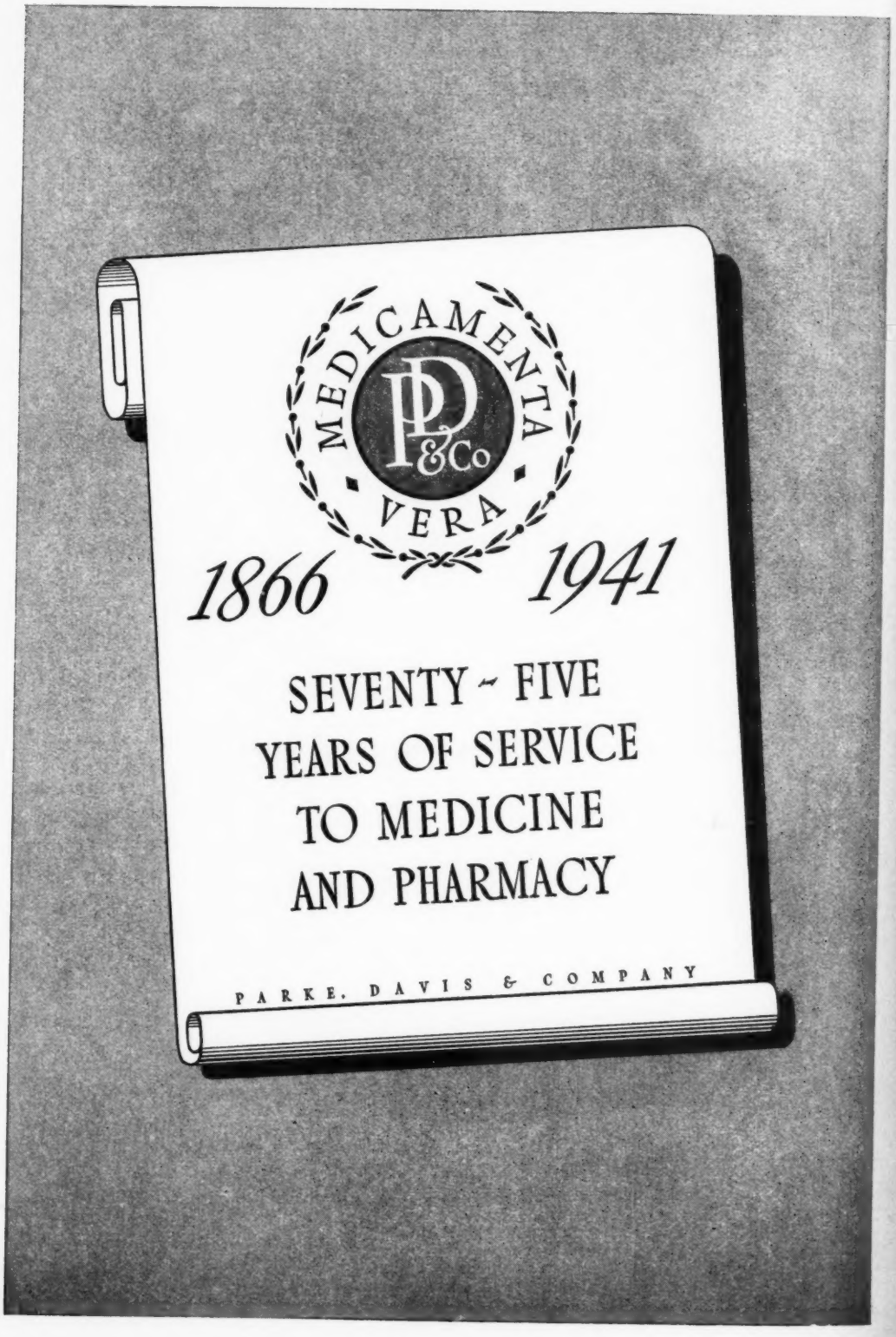
That the medical profession has recognized the importance of this contribution is indicated by the fact that cereal is now included in the baby's diet as early as the third or fourth month instead of at the sixth to twelfth month as was the custom only a decade or two ago.

In 1933 Mead Johnson & Company went a step further, improving the Mead's Cereal mixture by a special process of cooking, which rendered it easily tolerated by the infant and at the same time did away with the need for prolonged cereal cooking in the home. The result is Pablum, an original product which offers all of the nutritional qualities of Mead's Cereal, plus the convenience of thorough scientific cooking.

During the last ten years, these products have been used in a great deal of clinical investigation on various aspects of nutrition, which have been reported in the scientific literature.

Many physicians recognize the pioneer efforts on the part of Mead Johnson & Company by specifying Mead's Cereal and PABLUM.

Pablum is a palatable mixed cereal food, vitamin and mineral enriched, composed of wheatmeal (farina), oatmeal, cornmeal, wheat embryo, beef bone, brewers' yeast, alfalfa leaf, sodium chloride, and reduced iron.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